



# **STIC Search Report**

## **Biotech-Chem Library**

**STIC Database Tracking Number:** 126155

**TO: Ben Sackey**  
**Location: rem/5b31/5c18**  
**Art Unit: 1626**  
**Wednesday, July 14, 2004**

**Case Serial Number: 10/656867**

**From: Noble Jarrell**  
**Location: Biotech-Chem Library**  
**Rem 1B71**  
**Phone: 272-2556**

**Noble.jarrell@uspto.gov**

### **Search Notes**

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=> d his

(FILE 'HOME' ENTERED AT 07:46:39 ON 14 JUL 2004)

FILE 'REGISTRY' ENTERED AT 07:50:47 ON 14 JUL 2004

ACT SAC867S1/A

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L1 STR  
L2 36 SEA FILE=REGISTRY SSS SAM L1

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ACT SAC867PRO/A

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L3 STR  
L4 ( 1079943)SEA FILE=REGISTRY ABB=ON PLU=ON 16.136/RID  
L5 50 SEA FILE=REGISTRY SUB=L4 SSS SAM L3

FILE 'CASREACT' ENTERED AT 08:21:32 ON 14 JUL 2004

L6 STR  
L7 0 L6  
L8 STR L6.  
L9 0 L8  
L10 STR L8  
L11 0 L10  
L12 STR L10  
L13 STR L10  
L14 0 L13  
L15 STR L13  
L16 0 L15  
L17 STR L15  
L18 0 L17  
L19 48256 NITRILE/FG.RCT OR NITRILE/FG.RGT  
L20 0 L13 SAM SUB=L19  
L21 STR L13  
L22 0 L21  
L23 3 L13 FULL SUB=L19  
E PAGENKOPF B/AU  
L24 16 E4  
E YU MING/AU  
L25 14 E3-5  
E YU M/AU  
L26 1 E3  
L27 290 (DEP? (1A) CHEM? (1A) BIOC? (1A) UNIV? (1A) (TX OR TEXAS) (1A)  
L28 8 L21 FULL  
L29 1 (L23 OR L28) AND L24-26  
L30 1 (L23 OR L28) AND L27  
L31 1 L29-30  
L32 7 (L23 OR L28) NOT L31  
L33 7 L32 AND (PY<=2003 OR AY<=2003 OR PRY<=2003 OR AD<20030905 OR PD

FILE 'REGISTRY' ENTERED AT 09:50:11 ON 14 JUL 2004

L34 STR L1  
L35 5 L34  
L36 STR L3  
L37 50 L36  
L38 1080564 16.136/RID  
L39 50 L36 SUB=L38 SAM  
L40 STR L34  
L41 6 L40  
L42 STR L34  
L43 2 L42

L44 50 L3  
 L45 36 L1  
 L46 36074 L3 FULL  
 L47 679 L1 FULL

FILE 'HCAPLUS' ENTERED AT 10:34:59 ON 14 JUL 2004

L48 8632 L46  
 L49 257 L47  
 E PAGENKOPF B/AU  
 L50 33 E4  
 E YU MING/AU  
 L51 453 E3-52  
 L52 4 (DEPT (1A) CHEM (1A) BIOC? (1A) UNIV? (1A) (TX OR TEXAS) (1A) A  
 L53 2 (DEPARTMENT (1A) CHEM (1A) BIOC? (1A) UNIV? (1A) (TX OR TEXAS)  
 L54 70 L49 (L) RACT+NT/RL  
 L55 4334 L48 (L) PREP+NT/RL  
 L56 3 L54 AND L55  
 L57 2 L56 AND L50-51  
 L58 0 L56 AND L52-53  
 L59 1 L56 NOT L57  
 L60 1 L59 AND (PY<=2003 OR AY<=2003 OR PRY<=2003 OR AD<20030905 OR PD

=> b casreact

FILE 'CASREACT' ENTERED AT 10:41:51 ON 14 JUL 2004

USE IS SUBJECT TO THE TERMS OF YOUR CUSTOMER AGREEMENT

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FILE CONTENT:1840 - 11 Jul 2004 VOL 141 ISS 2

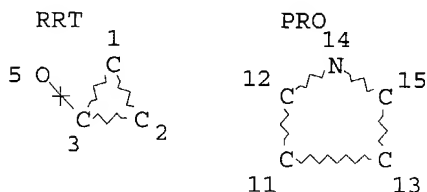
\*\*\*\*\*  
 \*  
 \* CASREACT now has more than 8 million reactions \*  
 \*  
 \*\*\*\*\*

Some CASREACT records are derived from the ZIC/VINITI database (1974-1991) provided by InfoChem, INPI data prior to 1986, and Biotransformations database compiled under the direction of Professor Dr. Klaus Kieslich.

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d que stat 123

L13 STR



NODE ATTRIBUTES:  
 DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 9

STEREO ATTRIBUTES: NONE

L19 48256 SEA FILE=CASREACT ABB=ON PLU=ON NITRILE/FG.RCT OR NITRILE/FG.

RGT

L23 3 SEA FILE=CASREACT SUB=L19 SSS FUL L13 ( 16 REACTIONS)

100.0% DONE 148217 VERIFIED

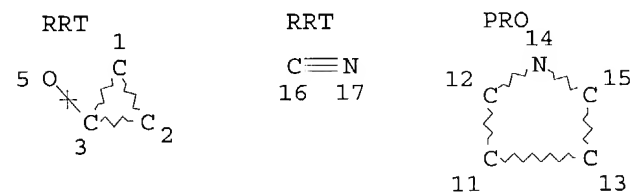
16 HIT RXNS

3 DOCS

SEARCH TIME: 00.00.06

=> d que stat l28

L21 STR



NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 11

STEREO ATTRIBUTES: NONE

L28 8 SEA FILE=CASREACT SSS FUL L21 ( 39 REACTIONS)

100.0% DONE 225002 VERIFIED

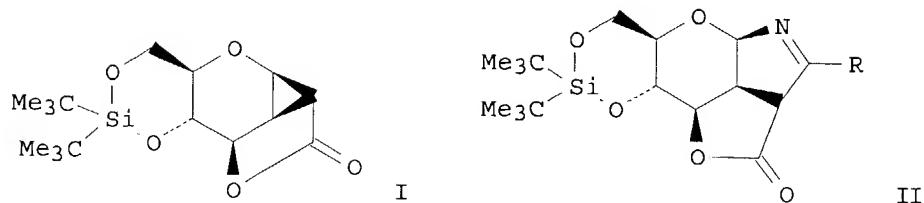
39 HIT RXNS

8 DOCS

SEARCH TIME: 00.00.11

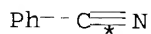
=> d bib abs rx l31 tot

L31 ANSWER 1 OF 1 CASREACT COPYRIGHT 2004 ACS on STN  
 AN 139:164719 CASREACT  
 TI Formal [3 + 2] Cycloadditions of Donor-Acceptor Cyclopropanes and Nitriles  
 AU **Yu, Ming; Pagenkopf, Brian L.**  
 CS **Department of Chemistry and Biochemistry,**  
**University of Texas, Austin, TX, 78712, USA**  
 SO Journal of the American Chemical Society (2003), 125(27), 8122-8123  
 CODEN: JACSAT; ISSN: 0002-7863  
 PB American Chemical Society  
 DT Journal  
 LA English  
 GI

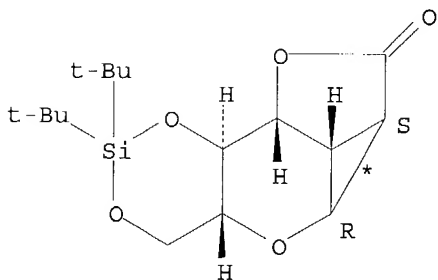


AB Upon activation with trimethylsilyl triflate, donor-acceptor cyclopropanes, e.g. I, cleave to give reactive intermediates that can be efficiently intercepted by nitriles RCN [R = Me, Ph, Me<sub>3</sub>C, PhCH:CH, MeOCH:CH, Cl(CH<sub>2</sub>)<sub>3</sub>, etc.] in a formal [3 + 2] dipolar cycloaddn. reaction to afford synthetically useful 2H-3,4-dihydropyrrole cycloaddn. products, e.g. II, in high yields.

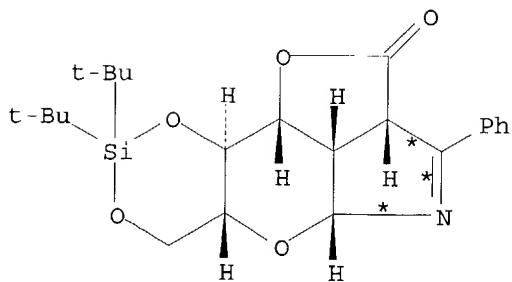
RX(1) OF 13      A + B ==> C



A



B



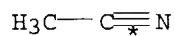
C

YIELD 81%

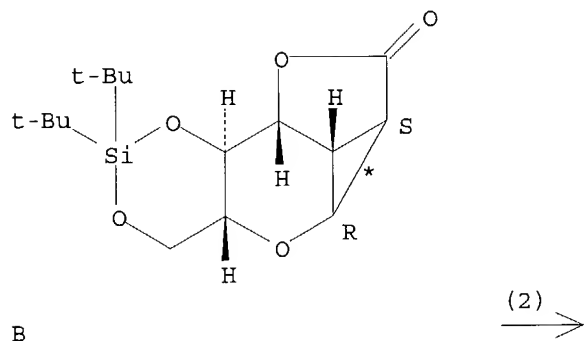
RX(1)      RCT   A 100-47-0, B 361456-14-6

RGT D 27607-77-8 Me3SiSO3CF3  
 PRO C 575444-66-5  
 SOL 75-09-2 CH2Cl2

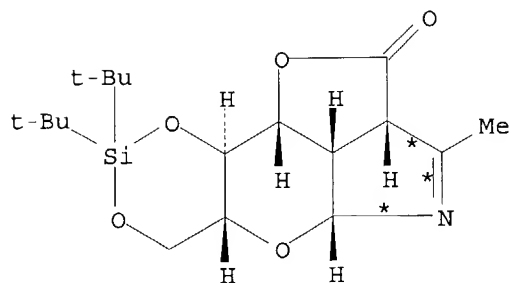
RX(2) OF 13      **F + B ==> G**



**F**



**B**

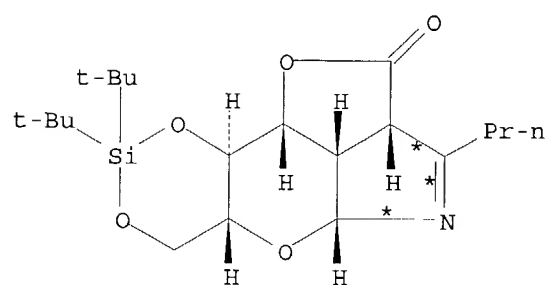
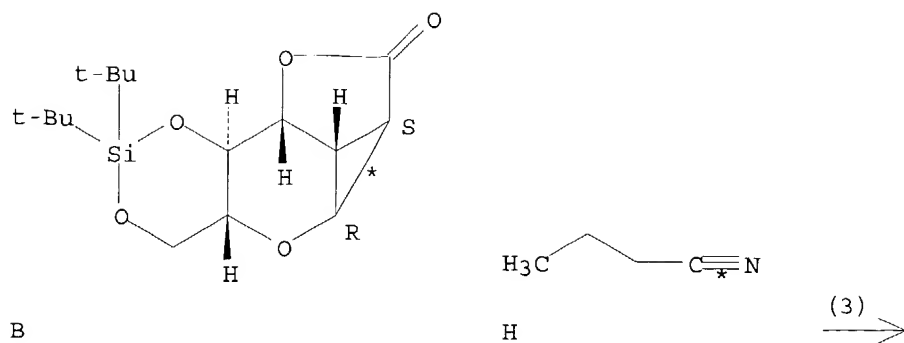


**G**

YIELD 96%

RX(2)      RCT F 75-05-8, B 361456-14-6  
 RGT D 27607-77-8 Me3SiSO3CF3  
 PRO G 575444-67-6  
 SOL 75-05-8 MeCN  
 NTE alternative prepn. shown

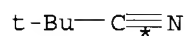
RX(3) OF 13      **B + H ==> I**



YIELD 95%

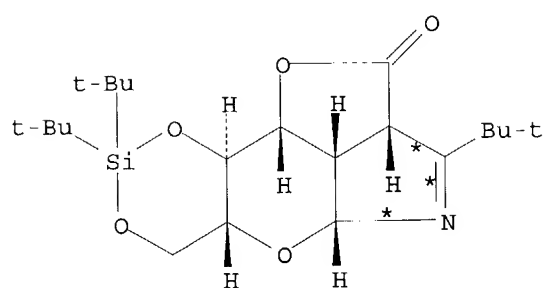
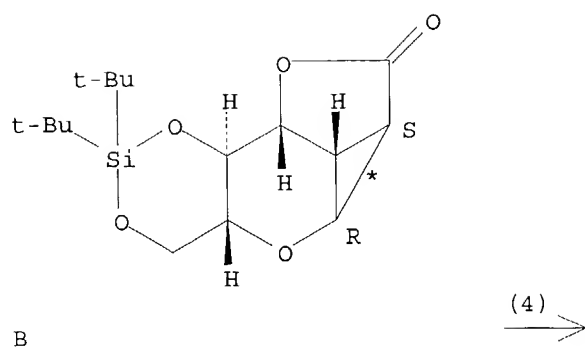
RX(3)      RCT   B 361456-14-6, H 109-74-0  
              RGT   D 27607-77-8 Me3SiSO3CF3  
              PRO   I 575444-68-7  
              SOL   75-09-2 CH2Cl2

RX(4) OF 13      J + B ==> K



J

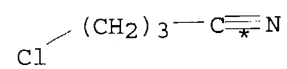


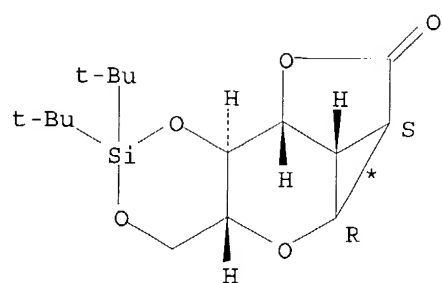


YIELD 79%

RX(4)      RCT   J 630-18-2, B 361456-14-6  
              RGT   D 27607-77-8 Me3SiSO3CF3  
              PRO   K 575444-69-8  
              SOL   75-09-2 CH2Cl2

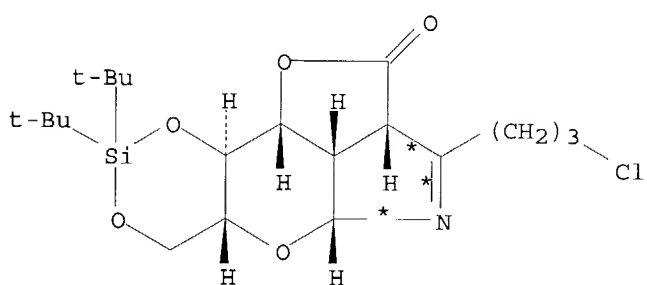
RX(5) OF 13      L + B ==> M





B

(5) →

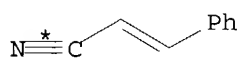


M

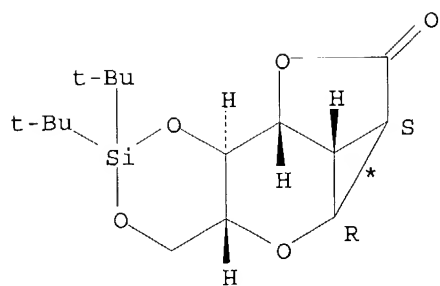
YIELD 87%

RX(5)      RCT    L 628-20-6, B 361456-14-6  
              RGT    D 27607-77-8 Me3SiSO3CF3  
              PRO    M 575444-70-1  
              SOL    75-09-2 CH2Cl2

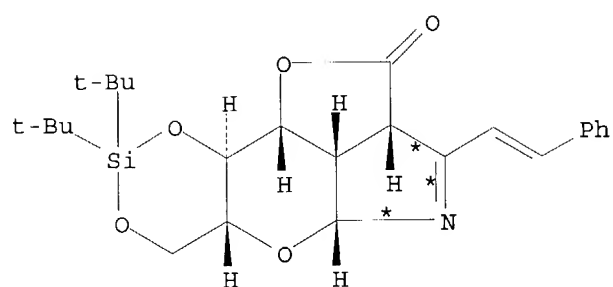
RX(6) OF 13      N + B ==> O



N

(6)  $\rightarrow$ 

B

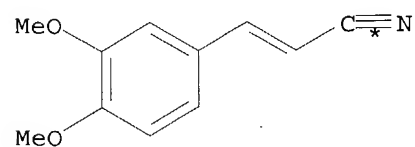


O

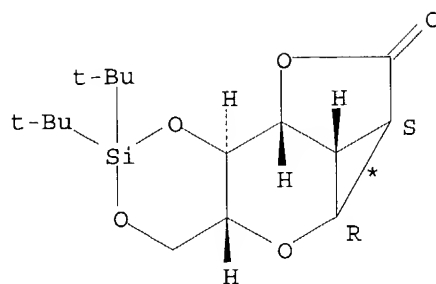
YIELD 60%

RX(6) RCT N 1885-38-7, B 361456-14-6  
 RGT D 27607-77-8 Me3SiSO3CF3  
 PRO O 575444-71-2  
 SOL 75-52-5 MeNO2

RX(7) OF 13 Q + B ==&gt; R

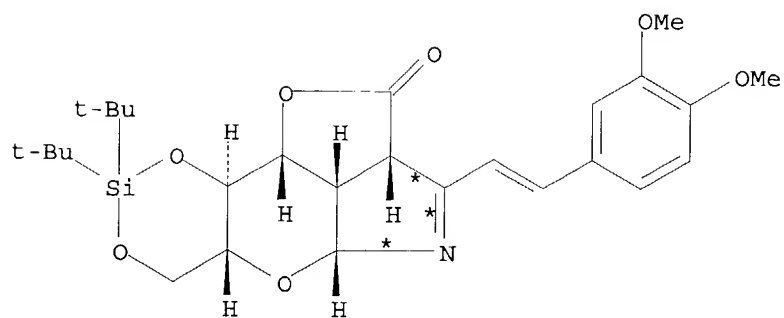


Q



B

(7)  $\rightarrow$



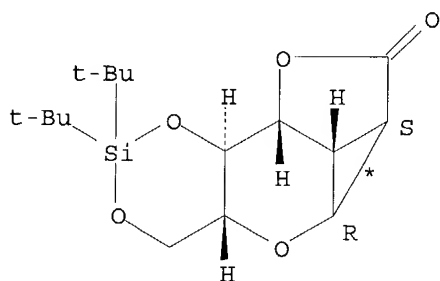
R  
YIELD 75%

RX(7)      RCT    Q 37629-85-9, B 361456-14-6  
              RGT    D 27607-77-8 Me3SiSO3CF3  
              PRO    R 575444-72-3  
              SOL    75-52-5 MeNO2

RX(8) OF 13      S + B ==> T

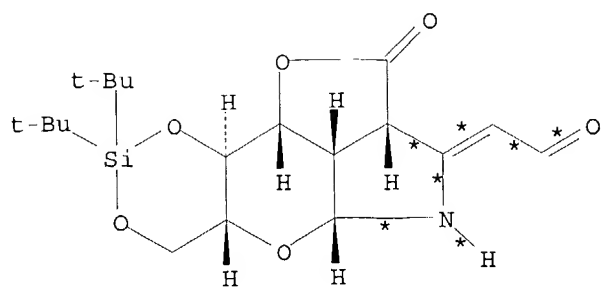


S



B

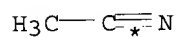
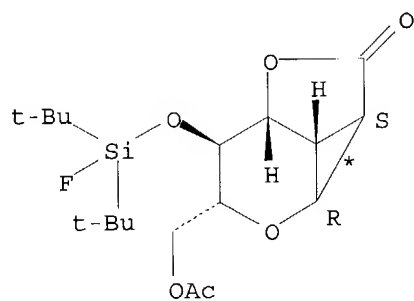
(8) →



T  
YIELD 78%

RX(8)      RCT   S 60838-50-8, B 361456-14-6  
              RGT   D 27607-77-8 Me3SiSO3CF3  
              PRO   T 575444-73-4  
              SOL   75-09-2 CH2Cl2

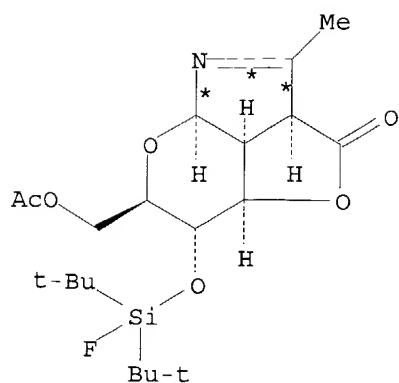
RX(9) OF 13      U + F ==> V



U

F

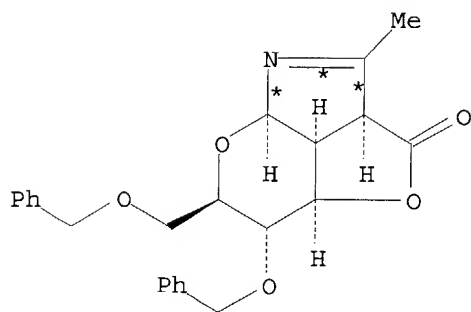
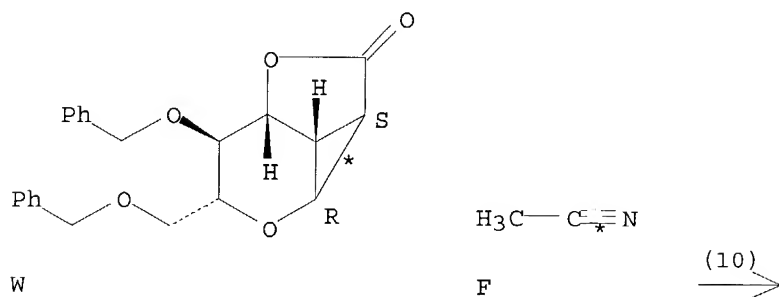
(9) →



V  
YIELD 92%

RX(9) RCT U 575444-74-5, F 75-05-8  
RGT D 27607-77-8 Me3SiSO3CF3  
PRO V 575444-77-8  
SOL 75-09-2 CH2Cl2

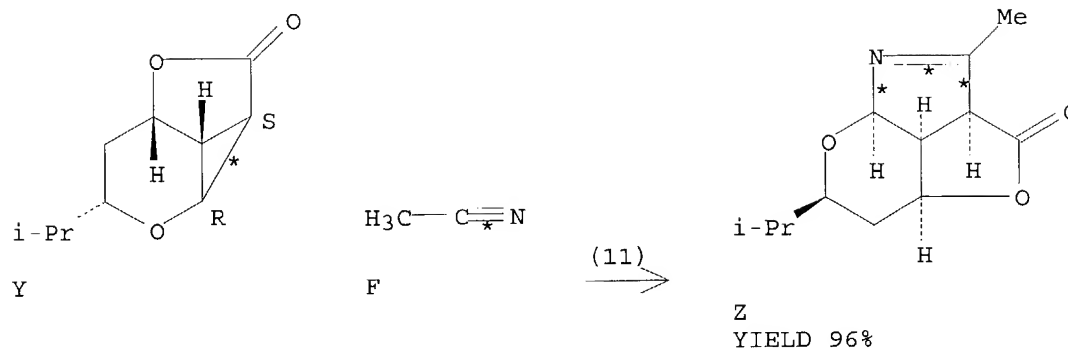
RX(10) OF 13 W + F ==> X



X  
YIELD 90%

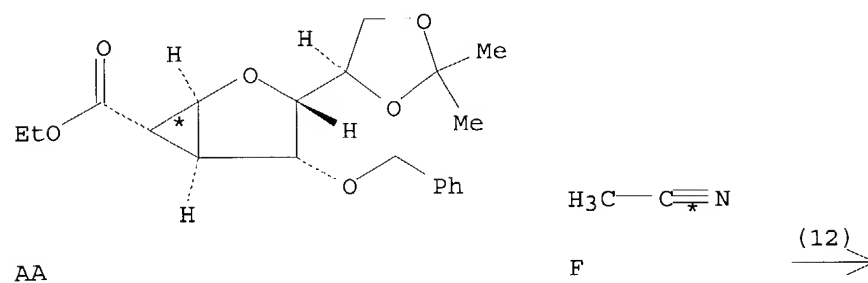
RX(10) RCT W 575444-75-6, F 75-05-8  
 RGT D 27607-77-8 Me3SiSO3CF3  
 PRO X 575444-78-9  
 SOL 75-09-2 CH2Cl2

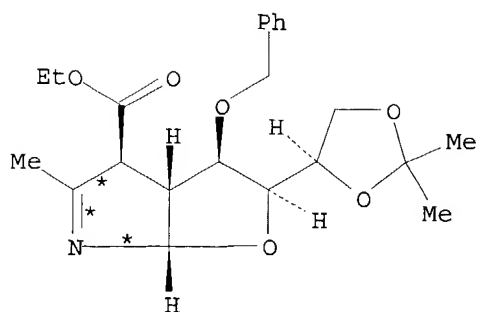
RX(11) OF 13 Y + F ==> Z



RX(11) RCT Y 575444-76-7, F 75-05-8  
 RGT D 27607-77-8 Me3SiSO3CF3  
 PRO Z 575444-79-0  
 SOL 75-09-2 CH2Cl2

RX(12) OF 13 AA + F ==> AB

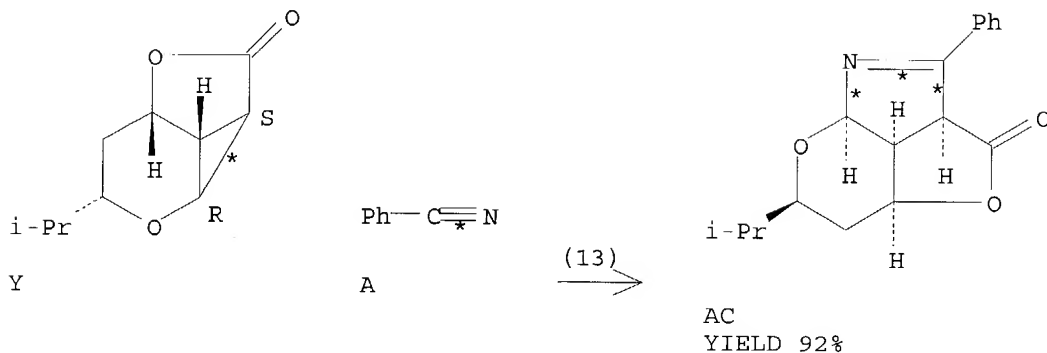




AB  
YIELD 43%

RX(12) RCT AA 250369-61-0, F 75-05-8  
RGT D 27607-77-8 Me3SiSO3CF3  
PRO AB 575444-81-4  
SOL 75-09-2 CH2Cl2

RX(13) OF 13 Y + A ==> AC



RX(13) RCT Y 575444-76-7, A 100-47-0  
RGT D 27607-77-8 Me3SiSO3CF3  
PRO AC 575444-80-3  
SOL 75-09-2 CH2Cl2

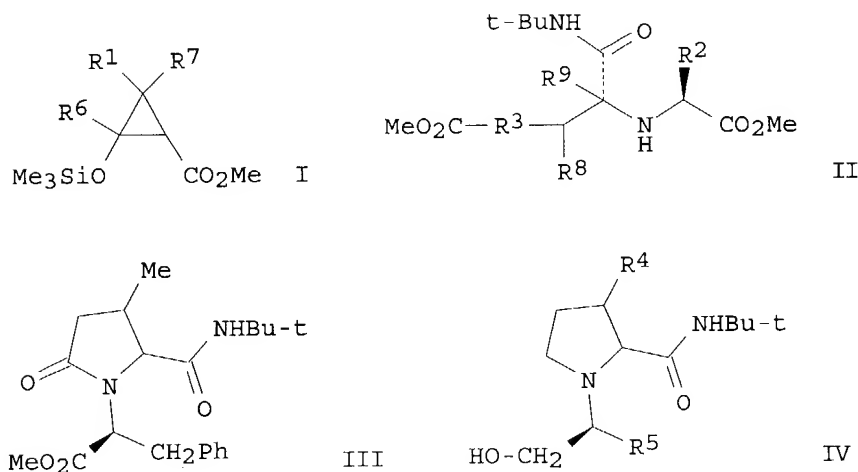
RE.CNT 45 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> => d bib abs rx 133 tot

L33 ANSWER 1 OF 7 CASREACT COPYRIGHT 2004 ACS on STN  
AN 136:6308 CASREACT  
TI Siloxycyclopropanes in Ugi four-component reaction: a new method for the  
synthesis of highly substituted pyrrolidinone derivatives

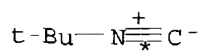


AU Zimmer, Reinhold; Ziemer, Antje; Gruner, Margit; Brudgam, Irene; Hartl, Hans; Reissig, Hans-Ulrich  
 CS Institut für Chemie - Organische Chemie, Freie Universität Berlin, Berlin, 14195, Germany  
 SO Synthesis (2001), (11), 1649-1658  
 CODEN: SYNTBF; ISSN: 0039-7881  
 PB Georg Thieme Verlag  
 DT Journal  
 LA English  
 GI

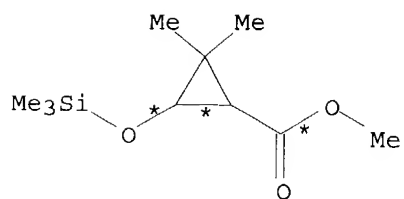


AB Reaction of Me trimethylsiloxycyclopropanecarboxylates I (R<sub>1</sub> = H, Me; R<sub>6</sub> = H, Me; R<sub>7</sub> = H, Me) with amino acids, tert-butylisocyanide and methanol furnished amino diacid derivs. II [R<sub>2</sub> = Bn, CH<sub>2</sub>indolyl, Me, CHMeEt; R<sub>3</sub> = CH<sub>2</sub>, (CH<sub>2</sub>)<sub>2</sub>; R<sub>8</sub> = H, Me; R<sub>9</sub> = H, Me] as the result of an Ugi 5-center 4-component reaction. This one-pot reaction involves .beta.-formyl esters such as MeOCOCH<sub>2</sub>CH(Me)COH as intermediate, which are liberated in situ. Adducts II could be thermally cyclized to provide .gamma.-lactams in good yields. The multi component reaction was combined with this cyclization process to a fairly efficient one-pot procedure. Thus, cyclopropane derivative I (R<sub>1</sub> = H) was converted into .gamma.-lactam III in good yield. Two of the .gamma.-lactams were reduced with lithium aluminum hydride to give pyrrolidine derivs. IV (R<sub>4</sub> = R<sub>5</sub> = Me; R<sub>4</sub> = H, R<sub>5</sub> = Bn). Based on an X-ray anal. of the major diastereomer of compound IV (R<sub>4</sub> = H, R<sub>5</sub> = Bn), the diastereoselectivity of the 4-component reaction is discussed.

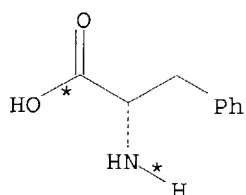
RX(17) OF 27     A + AE + C ==> AF



A

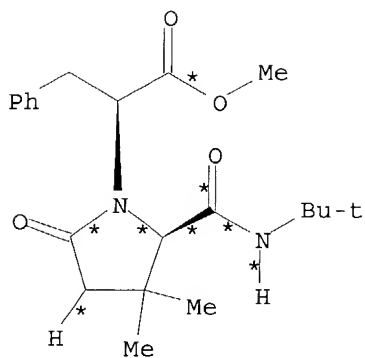


AE



C

(17) →



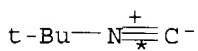
AF

YIELD 16% (53)

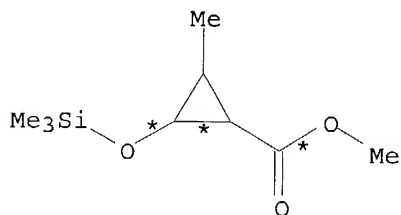
RX(17) RCT A 7188-38-7, AE 77903-45-8, C 63-91-2  
 PRO AF 374936-80-8  
 SOL 67-56-1 MeOH

RX(20) OF 27 COMPOSED OF RX(4), RX(11)

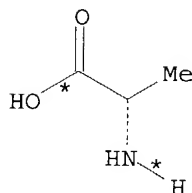
RX(20) A + J + K + E ==> U



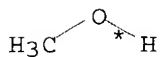
A



J

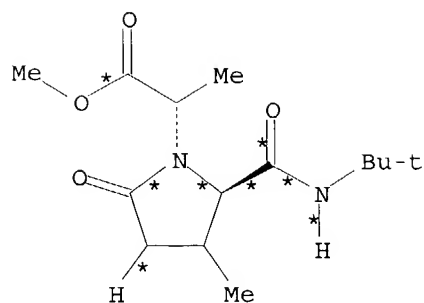


K



E

2  
STEPS  
→

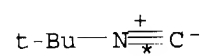


U  
YIELD 71% (56)

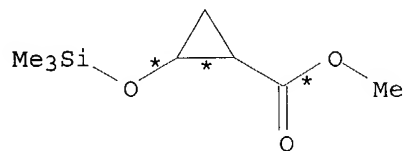
RX(4) RCT A **7188-38-7**, J **82884-40-0**, K 56-41-7, E  
67-56-1  
PRO L 374936-67-1  
SOL 67-56-1 MeOH  
NTE four Isomers 37:32:17:14 (R-major Isomer)

RX(11) RCT L 374936-67-1  
PRO U **374936-74-0**  
SOL 108-88-3 PhMe

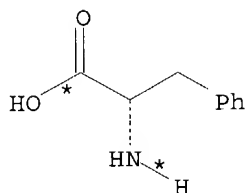
RX(21) OF 27 COMPOSED OF RX(5), RX(12)  
RX(21) A + M + C + E ==> V



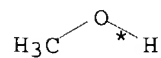
A



M

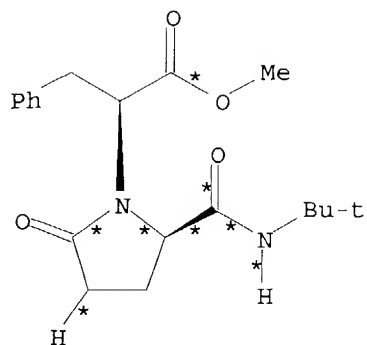


C



E

2  
STEPS  
→

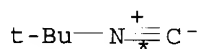


V  
YIELD 96% (90)

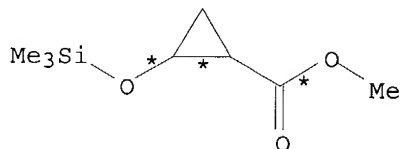
RX(5) RCT A 7188-38-7, M 90288-79-2, C 63-91-2, E  
.67-56-1  
PRO N 374936-68-2  
SOL 67-56-1 MeOH  
NTE stereoselective

RX(12) RCT N 374936-68-2  
PRO V 374936-75-1  
SOL 108-88-3 PhMe

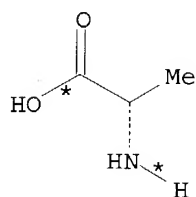
RX(22) OF 27 COMPOSED OF RX(6), RX(13)  
RX(22) A + M + K + E ==> W



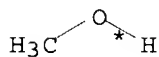
A



M

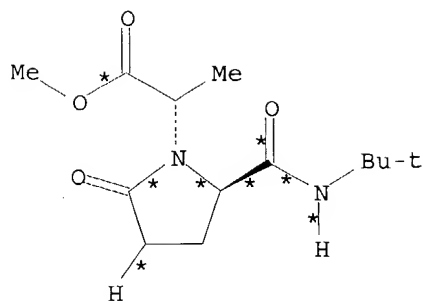


K



E

2  
STEPS  
→



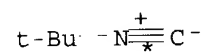
W

YIELD 86% (64)

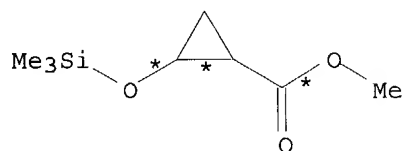
RX(6) RCT A 7188-38-7, M 90288-79-2, K 56-41-7, E  
 67-56-1  
 PRO O 374936-69-3  
 SOL 67-56-1 MeOH  
 NTE stereoselective

RX(13) RCT O 374936-69-3  
 PRO W 374936-76-2  
 SOL 108-88-3 PhMe

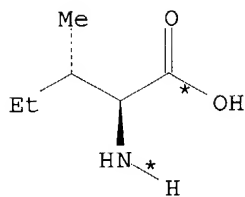
RX(23) OF 27 COMPOSED OF RX(7), RX(14)  
 RX(23) A + M + P + E ==> X



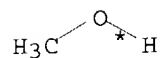
A



M

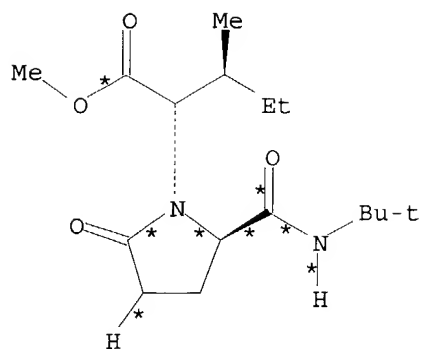


P



E

2  
 STEPS  
 —>

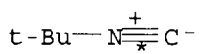


X  
YIELD 82% (85)

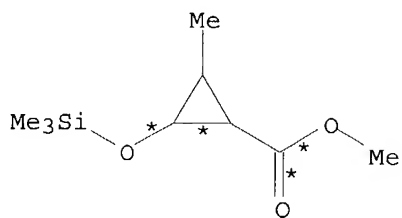
RX(7) RCT A 7188-38-7, M 90288-79-2, P 73-32-5, E  
67-56-1  
PRO Q 374936-70-6  
SOL 67-56-1 MeOH  
NTE stereoselective

RX(14) RCT Q 374936-70-6  
PRO X 374936-77-3  
SOL 108-88-3 PhMe

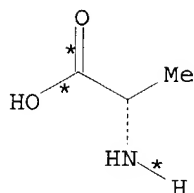
RX(26) OF 27 COMPOSED OF RX(4), RX(11), RX(16)  
RX(26) A + J + K + E ==> AD



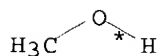
A



J

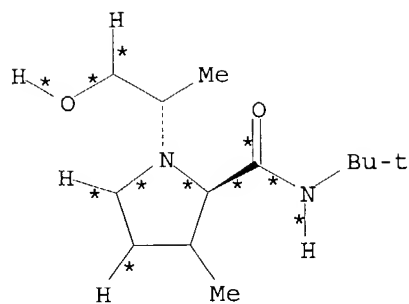


K



E

3  
STEPS  
→



AD

YIELD 16%

RX(4) RCT A 7188-38-7, J 82884-40-0, K 56-41-7, E  
67-56-1  
PRO L 374936-67-1  
SOL 67-56-1 MeOH  
NTE four Isomers 37:32:17:14 (R-major Isomer)

RX(11) RCT L 374936-67-1  
PRO U 374936-74-0  
SOL 108-88-3 PhMe

RX(16) RCT U 374936-74-0

STAGE(1)

RGT Z 16853-85-3 LiAlH<sub>4</sub>

SOL 109-99-9 THF

STAGE(2)

RGT AA 7732-18-5 Water

STAGE(3)

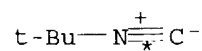
RGT AB 1310-73-2 NaOH

SOL 7732-18-5 Water

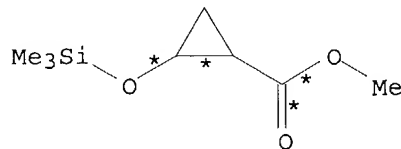
PRO AD 374936-79-5

RX(27) OF 27 COMPOSED OF RX(5), RX(12), RX(15)

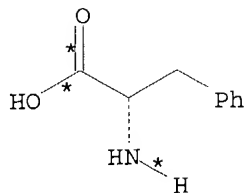
RX(27) A + M + C + E ==> Y



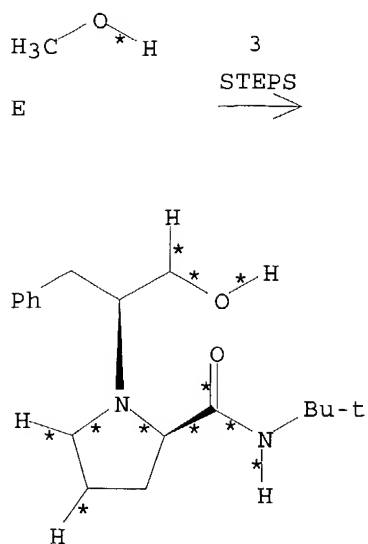
A



M



C



Y  
YIELD 81%

RX(5) RCT A 7188-38-7, M 90288-79-2, C 63-91-2, E  
67-56-1  
PRO N 374936-68-2  
SOL 67-56-1 MeOH  
NTE stereoselective

RX(12) RCT N 374936-68-2  
PRO V 374936-75-1  
SOL 108-88-3 PhMe

RX(15) RCT V 374936-75-1

STAGE(1)

RGT Z 16853-85-3 LiAlH<sub>4</sub>  
SOL 109-99-9 THF

STAGE(2)

RGT AA 7732-18-5 Water

STAGE(3)

RGT AB 1310-73-2 NaOH  
SOL 7732-18-5 Water  
PRO Y 374936-78-4

RE.CNT 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L33 ANSWER 2 OF 7 CASREACT COPYRIGHT 2004 ACS on STN

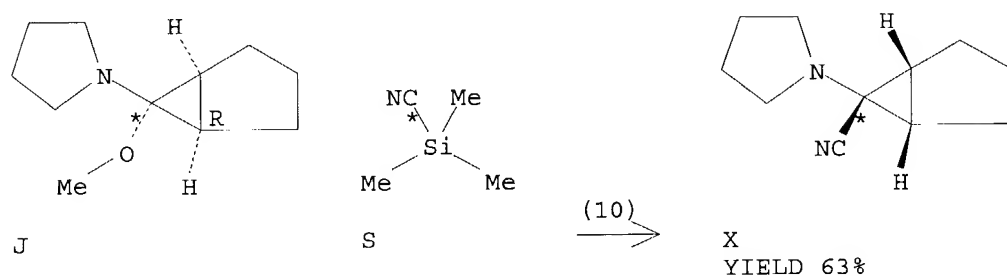
AN 130:311547 CASREACT

TI Ring-Fused Cyclopropanone N,O-Acetals. Electrochemical Preparation and  
Their Reactivities under Acidic Conditions



AU Chiba, Toshiro; Saitoh, Isao; Okimoto, Mitsuhiro; Tanase, Tomokazu; Yano, Sigenobu  
 CS Department of Applied Chemistry, Kitami Institute of Technology, Kitami, 090, Japan  
 SO Journal of Organic Chemistry (1999), 64(7), 2516-2519  
 CODEN: JOCEAH; ISSN: 0022-3263  
 PB American Chemical Society  
 DT Journal  
 LA English  
 AB The electrochem. reaction of cyclic enamines gave fused N,O-cyclopropanone acetals. The cyanation of the latter gave the corresponding amino nitriles. For example, the electrochem. reaction of N,N-diethyl-1-cyclohexen-1-amine gave 6-endo-(dimethylamino)-6-exo-methoxybicyclo[3.1.0]hexane. Further cyanation of the latter with trimethylsilyl cyanide and boron trifluoride-etherate gave 6-exo-cyano-6-endo-(diethylamino)bicyclo[3.1.0]hexane.

RX(10) OF 32 ...J + S ==> X



RX(10) RCT J 223482-73-3, S 7677-24-9

STAGE(1)

RGT U 109-63-7 BF3-Et2O

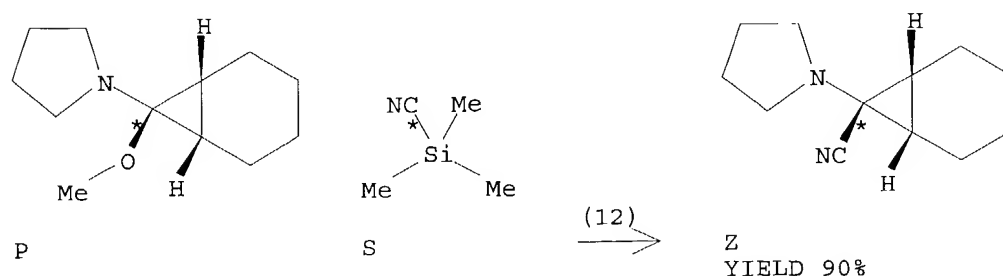
SOL 75-09-2 CH2Cl2

STAGE(2)

RGT F 7732-18-5 Water

PRO X 214780-98-0

RX(12) OF 32 ...P + S ==> Z



RX(12) RCT P 223482-87-9, S 7677-24-9

## STAGE(1)

RGT U 109-63-7 BF3-Et2O  
SOL 75-09-2 CH2Cl2

## STAGE(2)

RGT F 7732-18-5 Water  
PRO Z 76826-53-4

RE.CNT 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L33 ANSWER 3 OF 7 CASREACT COPYRIGHT 2004 ACS on STN

AN 129:289743 CASREACT

TI Cyanomethylene cyclopropane, a useful dipolarophile and dienophile in [2+3] and [2+4] cycloadditions

AU Mauduit, Marc; Kouklovsky, Cyrille; Langlois, Yves

CS Laboratoire de Synthese des Substances Naturelles Associe au CNRS, ICMO, Universite de Paris-sud, Orsay, 91405, Fr.

SO Tetrahedron Letters (1998), 39(38), 6857-6860

CODEN: TELEAY; ISSN: 0040-4039

PB Elsevier Science Ltd.

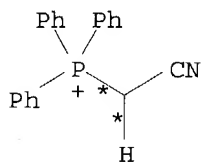
DT Journal

LA English

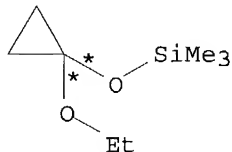
AB Cyanomethylene cyclopropane, prepared for the first time on large scale, proved to be a reactive dipolarophile and dienophile in several cycloaddns. The reactivity of this compound has been compared with 3-methyl-2-butenenitrile, Et 3-methyl-2-butenate, and ethoxycarbonylmethylene cyclopropane.

RX(12) OF 16 COMPOSED OF RX(1), RX(2)

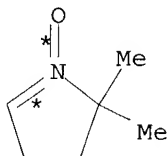
RX(12) 2 A + 2 B + 2 J ==> K + L



2 A

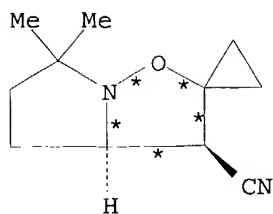


2 B

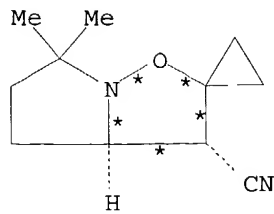


2 J

2  
STEPS  
→



K  
YIELD 87% (80)



L  
YIELD 87% (20)

RX(1) RCT A 4336-70-3

STAGE(1)

RGT D 1310-73-2 NaOH  
SOL 64-17-5 EtOH

STAGE(2)

RCT B 27374-25-0  
RGT E 75-77-4 Me3SiCl  
SOL 67-56-1 MeOH

STAGE(3)

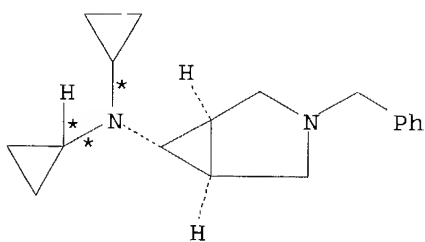
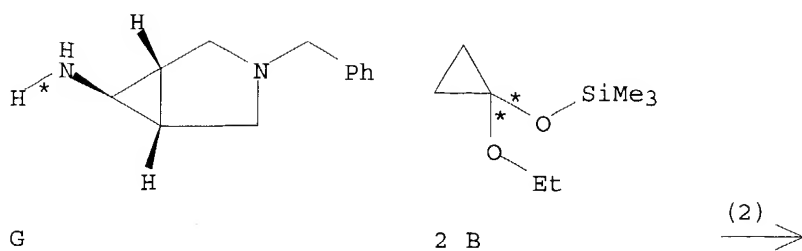
RGT F 65-85-0 BzOH  
SOL 71-43-2 Benzene  
PRO C 214262-61-0  
NTE CONVERGENT PREPN.

RX(2) RCT C 214262-61-0, J 3317-61-1  
PRO K 214262-62-1, L 214262-63-2  
SOL 108-88-3 PhMe  
NTE STEREoselective

RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L33 ANSWER 4 OF 7 CASREACT COPYRIGHT 2004 ACS on STN  
AN 124:86390 CASREACT  
TI A simple method for the formation of cyclopropylamines: the first synthesis of tricyclopropylamine.  
AU Gillaspay, Melissa; Lefker, Bruce A.; Hada, William A.; Hoover, Dennis J.  
CS Pfizer Central Res., Groton, CT, 06340, USA  
SO Tetrahedron Letters (1995), 36(41), 7399-402  
CODEN: TELEAY; ISSN: 0040-4039  
PB Elsevier  
DT Journal  
LA English  
AB Treatment of a variety of secondary and primary amines with [(1-ethoxycyclopropyl)oxy]trimethylsilane and NaBH3CN in MeOH gave mono- and dicyclopropylamines in 41-91% yield. Sterically hindered di- and tricyclopropylamines, including tricyclopropylamine, were prepared. The pKas of some mono-, di- and tricyclopropylamines were measured showing a reduction of .apprx.1-2 pKa unit per added cyclopropyl group.

RX(2) OF 8      G + 2 B ==&gt; H

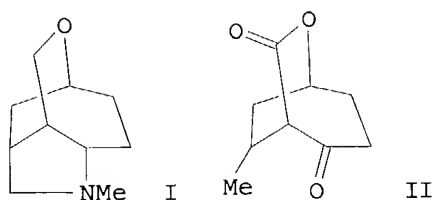


● HCl

H  
YIELD 66%

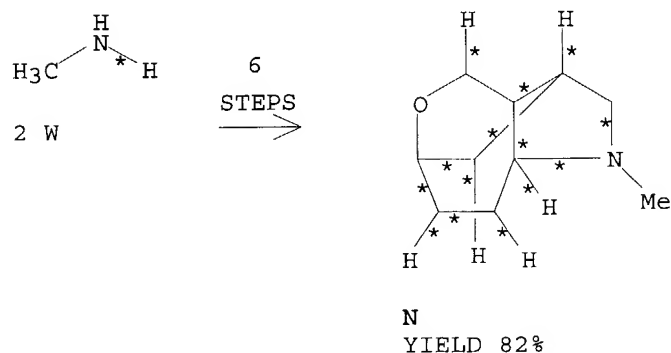
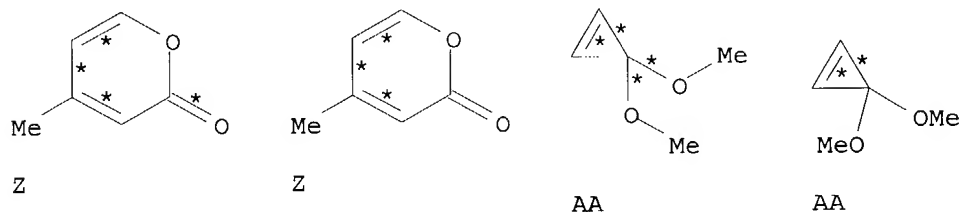
RX(2)      RCT    G 151860-17-2, B 27374-25-0  
              RGT    D 64-19-7 AcOH, E 25895-60-7 NaBH3CN  
              PRO    H 172537-66-5  
              SOL    67-56-1 MeOH  
              NTE    reflux overnight

L33    ANSWER 5 OF 7    CASREACT    COPYRIGHT 2004 ACS on STN  
 AN    113:78789    CASREACT  
 TI    A synthetic approach to gelsemicine  
 AU    Hamer, Neil K.  
 CS    Univ. Chem. Lab., Cambridge, CB2 1EW, UK  
 SO    Journal of the Chemical Society, Chemical Communications (1990),  
       (2), 102-3  
       CODEN: JCCCAT; ISSN: 0022-4936  
 DT    Journal  
 LA    English  
 GI



AB The oxazatricycloundecane ring I present in gelsemicine was prepared from the cycloadduct of 3,3-dimethoxycyclopropene and 4-methyl-2H-pyran-2-one via the oxabicyclononanedione II. The structure of II was detd by x-ray crystallog.

RX(29) OF 29 COMPOSED OF RX(8), RX(1), RX(2), RX(3), RX(7), RX(4)  
 RX(29)      2 Z + 2 AA + 2 W ==> N



RX(8)      RCT   Z 22682-12-8, AA 23529-83-1  
           PRO   A 128562-30-1

RX(1)      RCT   A 128562-30-1  
           RGT   C 1333-74-0 H2  
           PRO   B 128562-31-2  
           CAT   7440-16-6 Rh

RX(2)      RCT   B 128562-31-2

STAGE(1)  
 RGT   F 16853-85-3 LiAlH4

STAGE(2)  
RGT G 98-59-9 TsCl, H 7646-69-7 NaH  
PRO E 128562-32-3

RX(3) RCT E 128562-32-3  
RGT J 7647-01-0 HCl  
PRO I 128562-35-6  
SOL 67-56-1 MeOH, 7732-18-5 Water

RX(7) RCT W 74-89-5, I 128562-35-6  
RGT Y **25895-60-7** NaBH<sub>3</sub>CN  
PRO M 128656-99-5, X 128561-71-7  
NTE 84% overall

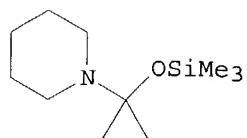
RX(4) RCT M 128656-99-5

STAGE(1)  
RGT O 7681-52-9 NaOCl

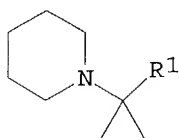
STAGE(2)  
RGT P 76-05-1 F<sub>3</sub>CCO<sub>2</sub>H

STAGE(3)  
RGT Q 1310-58-3 KOH  
SOL 67-56-1 MeOH  
PRO N **128562-29-8**

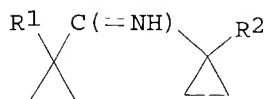
L33 ANSWER 6 OF 7 CASREACT COPYRIGHT 2004 ACS on STN  
AN 112:35605 CASREACT  
TI Cyclopropanone equivalents from 3-chloropropionic acid. Use of  
1-piperidino-1-trimethylsilyloxycyclopropane in synthetic applications  
AU Wasserman, Harry H.; Dion, Robert P.; Fukuyama, James  
CS Dep. Chem., Yale Univ., New Haven, CT, 06511, USA  
SO Tetrahedron (**1989**), 45(10), 3203-16  
CODEN: TETRAB; ISSN: 0040-4020  
DT Journal  
LA English  
GI



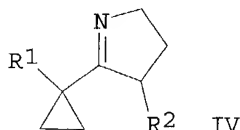
I



II



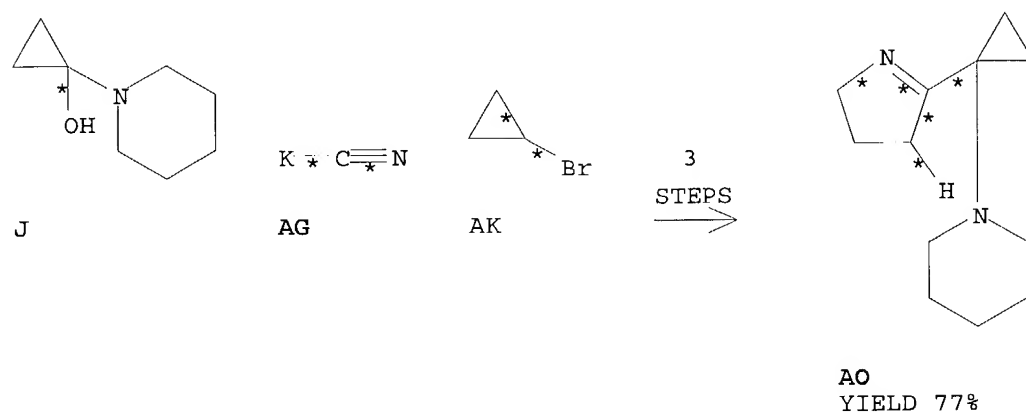
III



IV

AB 3-Chloropropionic acid piperidide was treated with Na and Me<sub>3</sub>SiCl to give cyclopropane I; the treatment of I with Grignard reagents gave II (R<sub>1</sub> = vinyl, cyclopentenyl, Ph, Et). Cyclopropanecarbonitriles underwent an addition reaction with cyclopropyllithium compds. to give ketimines III (R<sub>1</sub> = piperidino, H; R<sub>2</sub> = H, SPh), which rearranged to pyrrolines IV. The rearrangement of III (R<sub>1</sub> = H, R<sub>2</sub> = SPh) gave IV (R<sub>1</sub> = SPh, R<sub>2</sub> = H) in addition to IV (R<sub>1</sub> = H, R<sub>2</sub> = SPh).

RX(62) OF 88 COMPOSED OF RX(12), RX(13), RX(14)  
 RX(62) J + AG + AK ==> AO

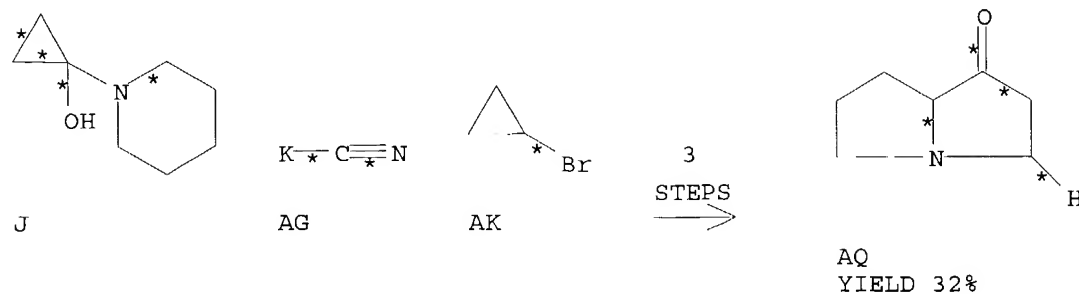


RX(12) RCT J 27161-21-3, AG 151-50-8  
 RGT AI 64-19-7 AcOH  
 PRO AH 82479-58-1  
 SOL 7732-18-5 Water

RX(13) RCT AH 82479-58-1, AK 4333-56-6  
 RGT AM 109-72-8 BuLi  
 PRO AL 82479-59-2  
 SOL 109-66-0 Pentane, 60-29-7 Et<sub>2</sub>O

RX(14) RCT AL 82479-59-2  
 PRO AO 82479-60-5  
 SOL 106-42-3 1,4-Xylene

RX(63) OF 88 COMPOSED OF RX(12), RX(13), RX(15)  
 RX(63) J + AG + AK ==> AQ



RX(12) RCT J 27161-21-3, AG 151-50-8  
 RGT AI 64-19-7 AcOH  
 PRO AH 82479-58-1  
 SOL 7732-18-5 Water

RX(13) RCT AH 82479-58-1, AK 4333-56-6  
 RGT AM 109-72-8 BuLi  
 PRO AL 82479-59-2  
 SOL 109-66-0 Pentane, 60-29-7 Et2O

RX(15) RCT AL 82479-59-2

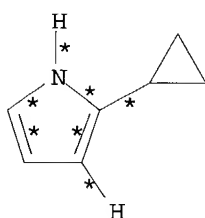
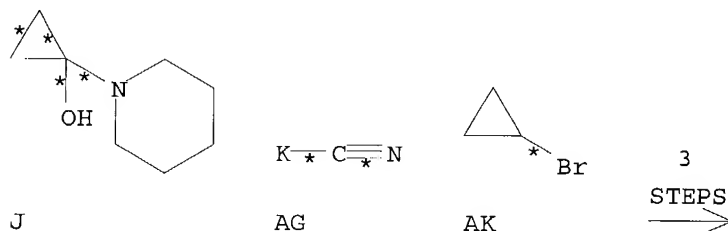
## STAGE(1)

RGT AR 10035-10-6 HBr  
 SOL 60-29-7 Et2O

## STAGE(2)

RGT AS 7647-01-0 HCl  
 SOL 7732-18-5 Water  
 PRO AQ 14174-83-5  
 NTE 2nd step pyrolysis

RX(64) OF 88 COMPOSED OF RX(12), RX(13), RX(21)  
 RX(64) J + AG + AK ==> BE



BE  
 YIELD 31%

RX(12) RCT J 27161-21-3, AG 151-50-8  
 RGT AI 64-19-7 AcOH  
 PRO AH 82479-58-1  
 SOL 7732-18-5 Water

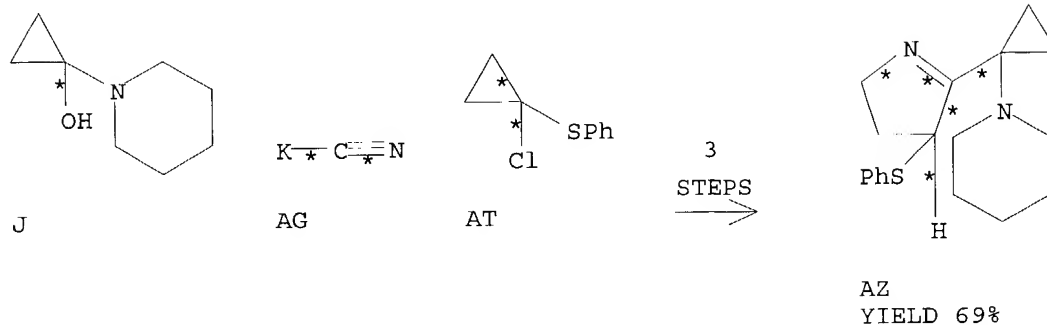
RX(13) RCT AH 82479-58-1, AK 4333-56-6  
 RGT AM 109-72-8 BuLi



PRO AL 82479-59-2  
SOL 109-66-0 Pentane, 60-29-7 Et2O

RX(21) RCT AL 82479-59-2  
RGT BF 353-42-4 Me2O.BF3  
PRO BE **87385-10-2**  
SOL 1330-20-7 Xylene

RX(65) OF 88 COMPOSED OF RX(12), RX(17), RX(19)  
RX(65) J + AG + AT ==> AZ

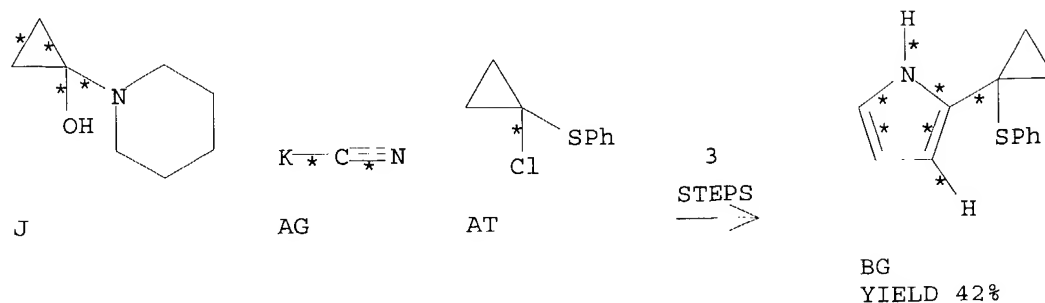


RX(12) RCT J **27161-21-3**, AG **151-50-8**  
RGT AI 64-19-7 AcOH  
PRO AH 82479-58-1  
SOL 7732-18-5 Water

RX(17) RCT AH 82479-58-1, AT 64416-57-5  
RGT AM 109-72-8 BuLi  
PRO AU 87385-05-5  
SOL 109-99-9 THF, 110-54-3 Hexane

RX(19) RCT AU 87385-05-5  
RGT BA 12125-02-9 NH4Cl  
PRO AZ **87385-07-7**  
SOL 106-42-3 1,4-Xylene

RX(66) OF 88 COMPOSED OF RX(12), RX(17), RX(22)  
RX(66) J + AG + AT ==> BG

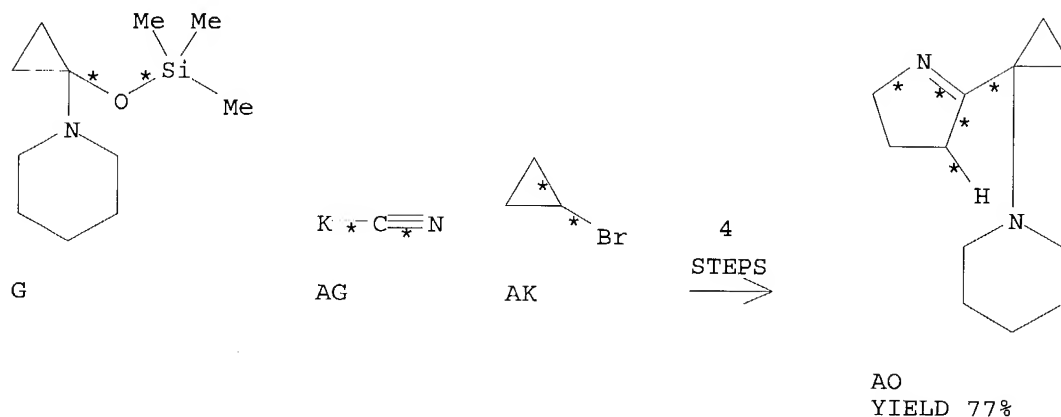


RX(12) RCT J 27161-21-3, AG 151-50-8  
 RGT AI 64-19-7 AcOH  
 PRO AH 82479-58-1  
 SOL 7732-18-5 Water

RX(17) RCT AH 82479-58-1, AT 64416-57-5  
 RGT AM 109-72-8 BuLi  
 PRO AU 87385-05-5  
 SOL 109-99-9 THF, 110-54-3 Hexane

RX(22) RCT AU 87385-05-5  
 RGT BF 353-42-4 Me<sub>2</sub>O.BF<sub>3</sub>  
 PRO BG 87385-11-3  
 SOL 109-99-9 THF

RX(67) OF 88 COMPOSED OF RX(3), RX(12), RX(13), RX(14)  
 RX(67) G + AG + AK ==> AO



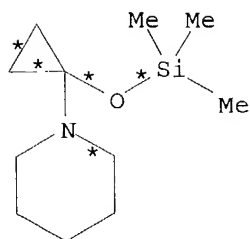
RX(3) RCT G 82125-98-2  
 RGT K 429-41-4 Bu<sub>4</sub>N.F  
 PRO J 27161-21-3  
 SOL 67-56-1 MeOH

RX(12) RCT J 27161-21-3, AG 151-50-8  
 RGT AI 64-19-7 AcOH  
 PRO AH 82479-58-1  
 SOL 7732-18-5 Water

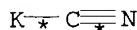
RX(13) RCT AH 82479-58-1, AK 4333-56-6  
 RGT AM 109-72-8 BuLi  
 PRO AL 82479-59-2  
 SOL 109-66-0 Pentane, 60-29-7 Et<sub>2</sub>O

RX(14) RCT AL 82479-59-2  
 PRO AO 82479-60-5  
 SOL 106-42-3 1,4-Xylene

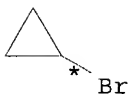
RX(68) OF 88 COMPOSED OF RX(3), RX(12), RX(13), RX(15)  
 RX(68) G + AG + AK ==> AQ



G

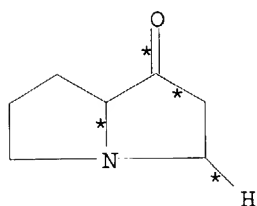


AG



AK

4  
STEPS  
→



AQ

YIELD 32%

RX(3) RCT G **82125-98-2**  
 RGT K 429-41-4 Bu<sub>4</sub>N.F  
 PRO J 27161-21-3  
 SOL 67-56-1 MeOH

RX(12) RCT J 27161-21-3, AG **151-50-8**  
 RGT AI 64-19-7 AcOH  
 PRO AH 82479-58-1  
 SOL 7732-18-5 Water

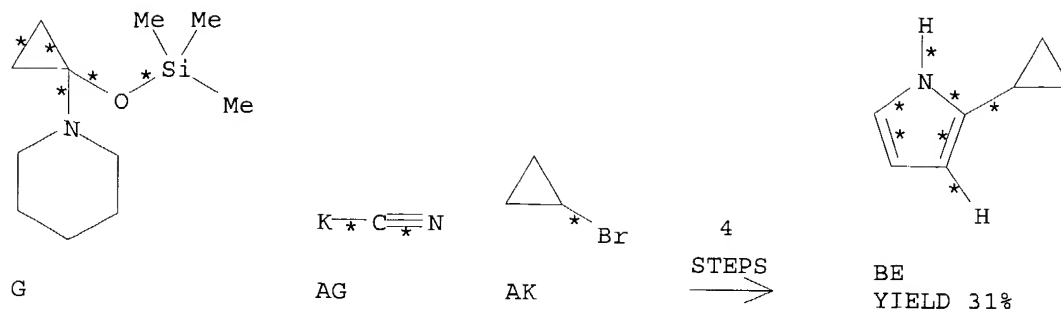
RX(13) RCT AH 82479-58-1, AK 4333-56-6  
 RGT AM 109-72-8 BuLi  
 PRO AL 82479-59-2  
 SOL 109-66-0 Pentane, 60-29-7 Et<sub>2</sub>O

RX(15) RCT AL 82479-59-2

STAGE(1)  
 RGT AR 10035-10-6 HBr  
 SOL 60-29-7 Et<sub>2</sub>O

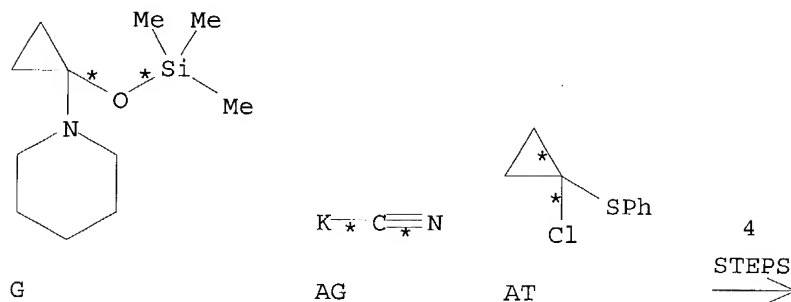
STAGE(2)  
 RGT AS 7647-01-0 HCl  
 SOL 7732-18-5 Water  
 PRO AQ **14174-83-5**  
 NTE 2nd step pyrolysis

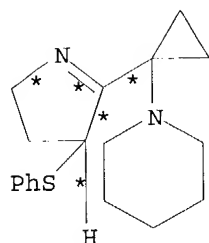
RX(69) OF 88 COMPOSED OF RX(3), RX(12), RX(13), RX(21)  
 RX(69) G + AG + AK ==> BE



RX(3)	RCT	G	<b>82125-98-2</b>
	RGT	K	429-41-4 Bu4N.F
	PRO	J	27161-21-3
	SOL	67-56-1	MeOH
RX(12)	RCT	J	27161-21-3, AG <b>151-50-8</b>
	RGT	AI	64-19-7 AcOH
	PRO	AH	82479-58-1
	SOL	7732-18-5	Water
RX(13)	RCT	AH	82479-58-1, AK 4333-56-6
	RGT	AM	109-72-8 BuLi
	PRO	AL	82479-59-2
	SOL	109-66-0	Pentane, 60-29-7 Et2O
RX(21)	RCT	AL	82479-59-2
	RGT	BF	353-42-4 Me2O.BF3
	PRO	BE	<b>87385-10-2</b>
	SOL	1330-20-7	Xylene

RX(70) OF 88 COMPOSED OF RX(3), RX(12), RX(17), RX(19)  
RX(70) G + AG + AT ==> AZ





AZ  
YIELD 69%

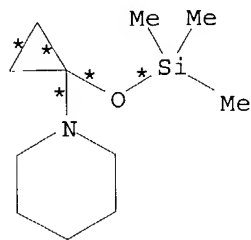
RX(3)      RCT    G **82125-98-2**  
              RGT    K 429-41-4 Bu<sub>4</sub>N.F  
              PRO    J 27161-21-3  
              SOL    67-56-1 MeOH

RX(12)     RCT    J 27161-21-3, AG **151-50-8**  
              RGT    AI 64-19-7 AcOH  
              PRO    AH 82479-58-1  
              SOL    7732-18-5 Water

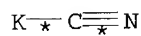
RX(17)     RCT    AH 82479-58-1, AT 64416-57-5  
              RGT    AM 109-72-8 BuLi  
              PRO    AU 87385-05-5  
              SOL    109-99-9 THF, 110-54-3 Hexane

RX(19)     RCT    AU 87385-05-5  
              RGT    BA 12125-02-9 NH<sub>4</sub>Cl  
              PRO    AZ **87385-07-7**  
              SOL    106-42-3 1,4-Xylene

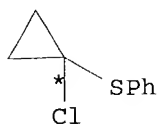
RX(71) OF 88 COMPOSED OF RX(3), RX(12), RX(17), RX(22)  
 RX(71)      G + AG + AT ==> BG



G

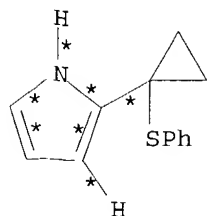


AG



AT

4  
STEPS  
→



BG  
YIELD 42%

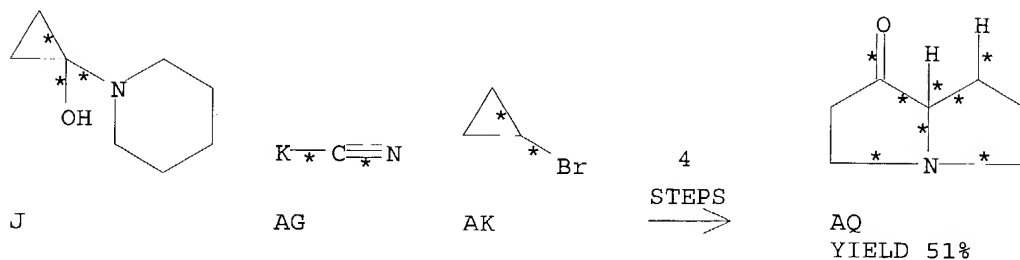
RX(3) RCT G **82125-98-2**  
RGT K 429-41-4 Bu<sub>4</sub>N.F  
PRO J 27161-21-3  
SOL 67-56-1 MeOH

RX(12) RCT J 27161-21-3, AG **151-50-8**  
RGT AI 64-19-7 AcOH  
PRO AH 82479-58-1  
SOL 7732-18-5 Water

RX(17) RCT AH 82479-58-1, AT 64416-57-5  
RGT AM 109-72-8 BuLi  
PRO AU 87385-05-5  
SOL 109-99-9 THF, 110-54-3 Hexane

RX(22) RCT AU 87385-05-5  
RGT BF 353-42-4 Me<sub>2</sub>O.BF<sub>3</sub>  
PRO BG **87385-11-3**  
SOL 109-99-9 THF

RX(73) OF 88 COMPOSED OF RX(12), RX(13), RX(14), RX(16)  
RX(73) J + AG + AK ==> AQ



RX(12) RCT J **27161-21-3**, AG **151-50-8**  
RGT AI 64-19-7 AcOH  
PRO AH 82479-58-1  
SOL 7732-18-5 Water

RX(13) RCT AH 82479-58-1, AK 4333-56-6  
RGT AM 109-72-8 BuLi  
PRO AL 82479-59-2  
SOL 109-66-0 Pentane, 60-29-7 Et<sub>2</sub>O

RX(14) RCT AL 82479-59-2  
 PRO AO 82479-60-5  
 SOL 106-42-3 1,4-Xylene

RX(16) RCT AO 82479-60-5

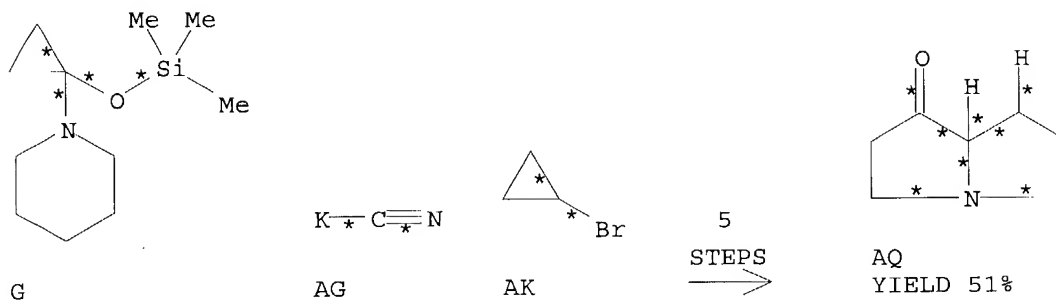
STAGE(1)

RGT AR 10035-10-6 HBr  
 SOL 60-29-7 Et2O

STAGE(2)

RGT AS 7647-01-0 HCl  
 SOL 7732-18-5 Water  
 PRO AQ 14174-83-5  
 NTE 2nd step pyrolysis

RX(86) OF 88 COMPOSED OF RX(3), RX(12), RX(13), RX(14), RX(16)  
 RX(86) G + AG + AK ==> AQ



RX(3) RCT G 82125-98-2  
 RGT K 429-41-4 Bu4N.F  
 PRO J 27161-21-3  
 SOL 67-56-1 MeOH

RX(12) RCT J 27161-21-3, AG 151-50-8  
 RGT AI 64-19-7 AcOH  
 PRO AH 82479-58-1  
 SOL 7732-18-5 Water

RX(13) RCT AH 82479-58-1, AK 4333-56-6  
 RGT AM 109-72-8 BuLi  
 PRO AL 82479-59-2  
 SOL 109-66-0 Pentane, 60-29-7 Et2O

RX(14) RCT AL 82479-59-2  
 PRO AO 82479-60-5  
 SOL 106-42-3 1,4-Xylene

RX(16) RCT AO 82479-60-5

STAGE(1)

RGT AR 10035-10-6 HBr  
 SOL 60-29-7 Et2O

## STAGE(2)

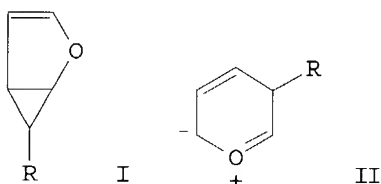
RGT AS 7647-01-0 HCl

SOL 7732-18-5 Water

PRO AQ 14174-83-5

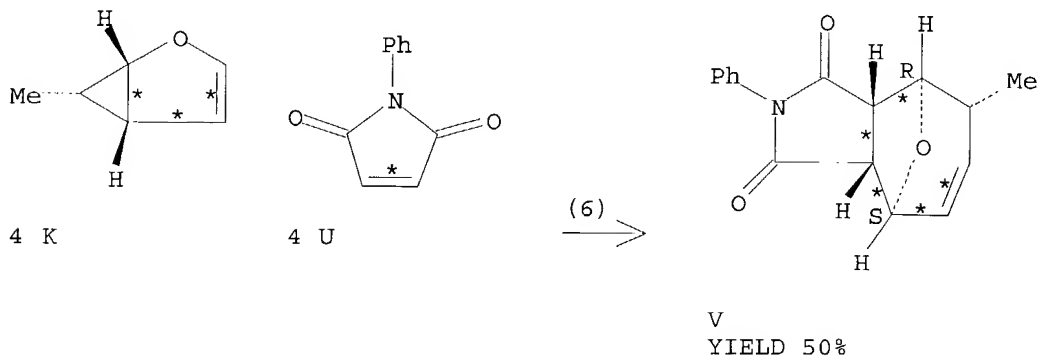
NTE 2nd step pyrolysis

L33 ANSWER 7 OF 7 CASREACT COPYRIGHT 2004 ACS on STN  
 AN 110:74558 CASREACT  
 TI Organic reactions at high pressure: the mechanism of the homo-Diels-Alder reaction of homofuran (2-oxabicyclo[3.1.0]hex-3-ene)  
 AU Klaerner, Frank Gerrit; Schroer, Dietmar  
 CS Fak. Chem., Univ. Bochum, Bochum, D-4630/1, Fed. Rep. Ger.  
 SO Chemische Berichte (1989), 122(1), 179-85  
 CODEN: CHBEAM; ISSN: 0009-2940  
 DT Journal  
 LA German  
 GI

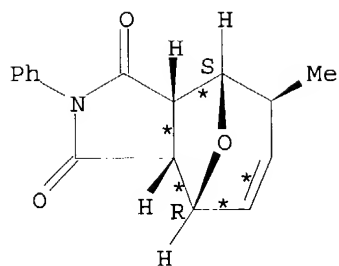


AB High pressure kinetics of the title reaction of (-)-I (R = H) with trans-NCCH:CHCN, to give the optically active adduct supports a [ $\pi.2 + \sigma.2$ ] cycloaddn. mechanism which does not involve ring opening to the dihydropyrilium zwitterion II; II is involved in the racemization of (-)-I (R = H). The reaction of I (R =  $\alpha$ -Me,  $\beta$ -Me) shows that the cycloaddn. proceeds exo with respect to the three-membered ring.

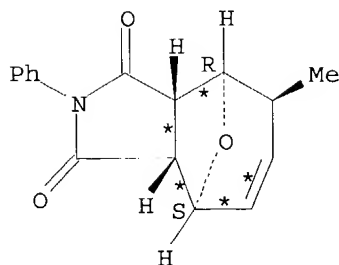
RX(6) OF 71            ... 4 K + 4 U ==> V + W + X + Y



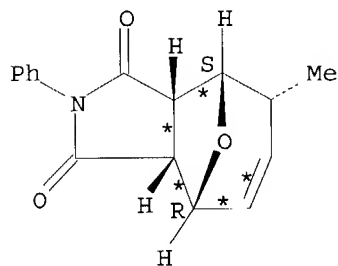




W  
YIELD 40%



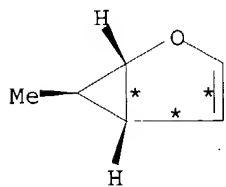
X



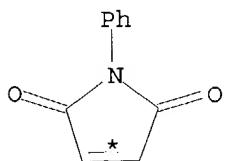
Y

RX(6) RCT K 42311-33-1, U 941-69-5  
 RGT Z 117065-57-3 8-Oxabicyclo[3.2.1]oct-2-ene-6,7-  
 dicarbonitrile, (exo,exo)-  
 PRO V 116997-00-3, W 117065-63-1, X 117065-64-2, Y  
 117065-65-3  
 SOL 666-52-4 Acetone-d6

RX(21) OF 71 COMPOSED OF RX(11), RX(6)  
 RX(21) 4 L + 4 U ==> V + W + X + Y

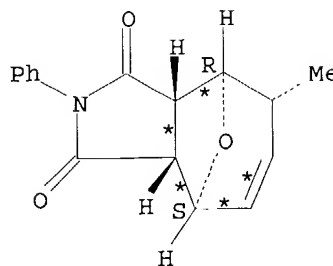


4 L

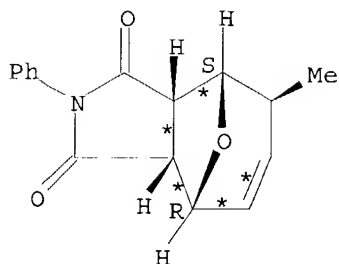


4 U

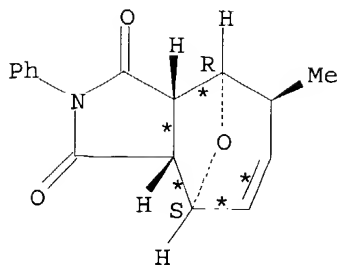
2  
STEPS  
→



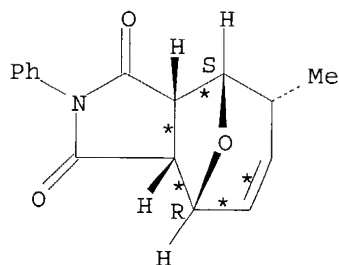
V  
YIELD 50%



W  
YIELD 40%



X



Y

RX(11) RCT L 42204-89-7  
 PRO K 42311-33-1  
 SOL 110-00-9 Furan  
 NTE 80.degree.

RX(6) RCT K 42311-33-1, U 941-69-5  
 RGT Z 117065-57-3 8-Oxabicyclo[3.2.1]oct-2-ene-6,7-  
 dicarbonitrile, (exo,exo)-  
 PRO V 116997-00-3, W 117065-63-1, X 117065-64-2, Y  
 117065-65-3  
 SOL 666-52-4 Acetone-d6

=> b reg

FILE 'REGISTRY' ENTERED AT 10:48:42 ON 14 JUL 2004  
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STRUCTURE FILE UPDATES: 13 JUL 2004 HIGHEST RN 709042-93-3  
 DICTIONARY FILE UPDATES: 13 JUL 2004 HIGHEST RN 709042-93-3

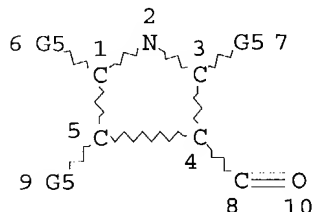
TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2004

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Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:  
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> d que stat 146  
 L3 STR



VAR G5=H/CY/AK  
 NODE ATTRIBUTES:  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

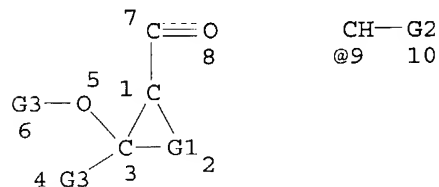
GRAPH ATTRIBUTES:  
 RSPEC 5  
 NUMBER OF NODES IS 10

STEREO ATTRIBUTES: NONE  
 L46 36074 SEA FILE=REGISTRY SSS FUL L3

100.0% PROCESSED 162043 ITERATIONS  
 SEARCH TIME: 00.00.08

36074 ANSWERS

=> d que stat 147  
 L1 STR



VAR G1=CH2/9  
 VAR G2=CY/AK  
 VAR G3=H/AK/CY  
 NODE ATTRIBUTES:  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
 RSPEC 1  
 NUMBER OF NODES IS 10

STEREO ATTRIBUTES: NONE

L47 679 SEA FILE=REGISTRY SSS FUL L1

100.0% PROCESSED 3326 ITERATIONS  
SEARCH TIME: 00.00.01

679 ANSWERS

=> b hcap

FILE 'HCAPLUS' ENTERED AT 10:44:59 ON 14 JUL 2004

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FILE COVERS 1907 - 14 Jul 2004 VOL 141 ISS 3  
FILE LAST UPDATED: 13 Jul 2004 (20040713/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

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=> b hcap

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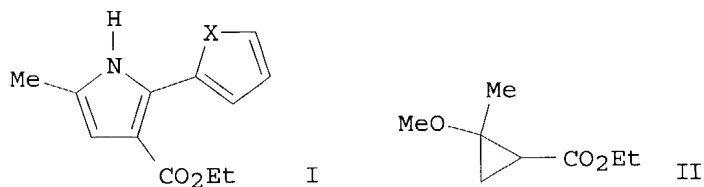
FILE COVERS 1907 - 14 Jul 2004 VOL 141 ISS 3  
FILE LAST UPDATED: 13 Jul 2004 (20040713/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

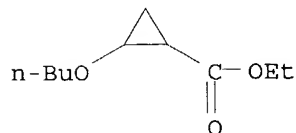
'OBI' IS DEFAULT SEARCH FIELD FOR 'HCAPLUS' FILE

=> d bib abs fhitrn hitrn 157 tot

L57 ANSWER 1 OF 2 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2004:141810 HCAPLUS  
 DN 140:339152  
 TI Synthesis of 2,2'-bipyrroles and 2,2'-thienylpyrroles from donor-acceptor cyclopropanes and 2-cyanoheteroles  
 AU **Yu, Ming**; Pantos, G. Dan; Sessler, Jonathan L.; **Pagenkopf, Brian L.**  
 CS Department of Chemistry and Biochemistry, University of Texas at Austin, Austin, TX, 78712, USA  
 SO Organic Letters (2004), 6(6), 1057-1059  
 CODEN: ORLEF7; ISSN: 1523-7060  
 PB American Chemical Society  
 DT Journal  
 LA English  
 GI



AB Two series of 2,2'-bipyrroles, e.g., I (X = NH), and 2,2'-thienylpyrroles, e.g., I (X = S), have been prepared by trimethylsilyl trifluoromethanesulfonate-mediated reaction of donor-acceptor cyclopropanes, e.g., II, with 2-cyanopyrroles and 2-cyanothiophene, resp. This method opened the door for synthesis of a wide variety of unsym. bipyrroles and thienylpyrroles.  
 IT 78932-45-3  
 RL: SPN (Synthetic preparation); PREP (Preparation);  
 PREP (Preparation)  
 (preparation of bipyrrolecarboxylates and thienylpyrrolecarboxylates via heterocyclization of alkoxycyclopropanecarboxylates with cyanopyrroles or cyanothiophene)  
 RN 78932-45-3 HCAPLUS  
 CN Cyclopropanecarboxylic acid, 2-butoxy-, ethyl ester (9CI) (CA INDEX NAME)



IT 78932-45-3 635320-14-8 679816-73-0  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (preparation of bipyrrolecarboxylates and thienylpyrrolecarboxylates via heterocyclization of alkoxycyclopropanecarboxylates with cyanopyrroles or cyanothiophene)  
 IT 679816-74-1P 679816-87-6P 679816-90-1P  
 679816-91-2P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (preparation of bipyrrolecarboxylates and thienylpyrrolecarboxylates via

heterocyclization of alkoxycyclopropanecarboxylates with cyanopyrroles or cyanothiophene)

IT 133706-06-6P 679816-75-2P 679816-76-3P  
679816-77-4P 679816-78-5P 679816-79-6P  
679816-80-9P 679816-83-2P 679816-84-3P  
679816-85-4P 679816-86-5P 679816-88-7P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of bipyrrrolecarboxylates and thienylpyrrolecarboxylates via heterocyclization of alkoxycyclopropanecarboxylates with cyanopyrroles or cyanothiophene)

RE.CNT 56 THERE ARE 56 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L57 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:960478 HCAPLUS

DN 140:111237

TI A Powerful New Strategy for Diversity-Oriented Synthesis of Pyrroles from Donor-Acceptor Cyclopropanes and Nitriles

AU **Yu, Ming; Pagenkopf, Brian L.**

CS Department of Chemistry and Biochemistry, The University of Texas at Austin, Austin, TX, 78712, USA

SO Organic Letters (2003), 5(26), 5099-5101  
CODEN: ORLEF7; ISSN: 1523-7060

PB American Chemical Society

DT Journal

LA English

AB Lewis acid-activated donor-acceptor cyclopropanes react with aliphatic, aromatic, and .alpha.,.beta.-unsatd. nitriles in a novel cascade [3 + 2] dipolar cycloaddn., dehydration, and tautomerization sequence to afford pyrroles in moderate to excellent overall yield. This cost-effective and regiospecific method is ideally suited for the preparation of combinatorial libraries.

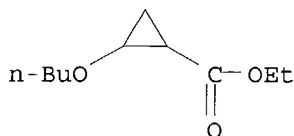
IT 78932-45-3

RL: SPN (Synthetic preparation); PREP (Preparation)

(diversity-oriented synthesis of pyrroles via Lewis acid-activated cycloaddn./dehydration/tautomerization reactions of various donor-acceptor cyclopropanes and nitriles)

RN 78932-45-3 HCAPLUS

CN Cyclopropanecarboxylic acid, 2-butoxy-, ethyl ester (9CI) (CA INDEX NAME)



IT 78932-45-3 78932-46-4 635320-14-8  
647836-52-0

RL: RCT (Reactant); RACT (Reactant or reagent)

(diversity-oriented synthesis of pyrroles via Lewis acid-activated cycloaddn./dehydration/tautomerization reactions of various donor-acceptor cyclopropanes and nitriles)

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RL: SPN (Synthetic preparation); PREP (Preparation)

(diversity-oriented synthesis of pyrroles via Lewis acid-activated cycloaddn./dehydration/tautomerization reactions of various donor-acceptor cyclopropanes and nitriles)

RE.CNT 63 THERE ARE 63 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d bib abs hitstr hitrn l60 tot

L60 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:875173 HCAPLUS

DN 139:381511

TI Pyrrolotriazine aniline compounds useful as kinase inhibitors, particularly p38 kinases, and their preparation, pharmaceutical compositions, and use as antiinflammatory agents

IN Dyckman, Alaric; Hynes, John; Leftheris, Katherina; Liu, Chunjian; Wroblewski, Stephen T.

PA Bristol-Myers Squibb Company, USA

SO PCT Int. Appl., 158 pp.

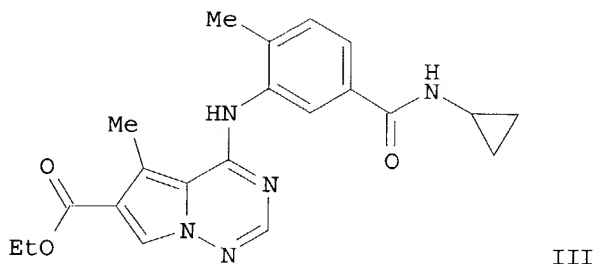
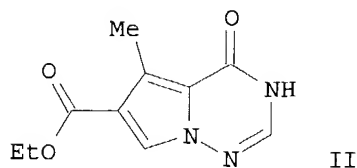
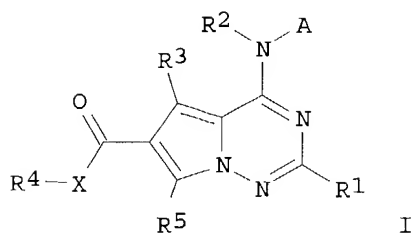
CODEN: PIXXD2

DT Patent

LA English

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PRAI	US 2002-374938P	P	20020423 <--		
OS	MARPAT 139:381511				
GI					



AB Title compds. I and their enantiomers, diastereomers, pharmaceutically acceptable salts, prodrugs, and solvates are useful as p38 kinase inhibitors [wherein: A = certain substituted Ph rings, particularly bearing various carboxamide and sulfonamide substituents; X = O, OCO, S, S(O), SO<sub>2</sub>, CO, CO<sub>2</sub>, (un)substituted NH, NHCO, NHCONH, NHCO<sub>2</sub>, NHSO<sub>2</sub>, NHSO<sub>2</sub>NH, SO<sub>2</sub>NH, or CONH, halo, NO<sub>2</sub>, cyano, or bond; R<sub>1</sub>, R<sub>5</sub> = H, (un)substituted alkyl, OH or derivs., SH or derivs., CO<sub>2</sub>H or derivs., NH<sub>2</sub> or derivs., halo, NO<sub>2</sub>, cyano; R<sub>2</sub> = H, alkyl; R<sub>3</sub> = H, Me, CF<sub>3</sub>, MeO, halo, cyano, NH<sub>2</sub>, or NHMe; R<sub>4</sub> = H (with provisos), (un)substituted alk(en/yn)yl, (hetero)aryl, (hetero)cycloalkyl, or absent]. Over 300 specific compds. I and various intermediates were prepared. Compds. I selectively inhibited human p38.alpha./beta. isoenzymes and TNF-.alpha. in vitro (no data). For instance, 3-amino-4-methylbenzoic acid was amidated quant. with cyclopropylamine using EDC and DMAP in DMF. The pyrrolotriazinone ester II was then chlorinated at the ring oxo group with POCl<sub>3</sub> (100%). Aminolysis of the resulting chloride with the benzamide product from the first step gave 80% invention compound III.

IT 623153-04-8P 623153-07-1P

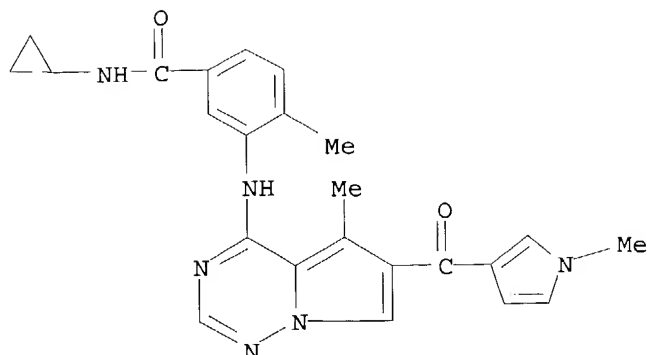
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(drug candidate; preparation of pyrrolotriazine aniline compds. as p38 kinase inhibitors)

RN 623153-04-8 HCAPLUS

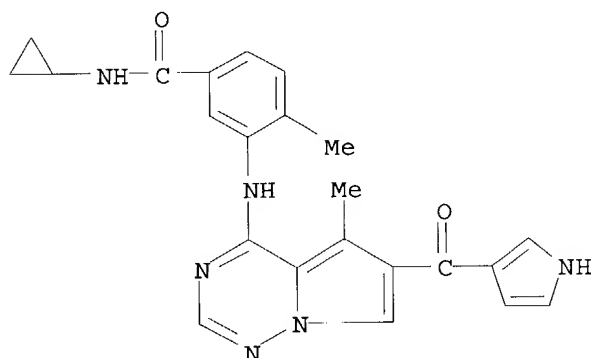
CN Benzamide, N-cyclopropyl-4-methyl-3-[[5-methyl-6-[(1-methyl-1H-pyrrol-3-yl)carbonyl]pyrrolo[2,1-f][1,2,4]triazin-4-yl]amino]- (9CI) (CA INDEX NAME)





RN 623153-07-1 HCAPLUS

CN Benzamide, N-cyclopropyl-4-methyl-3-[[5-methyl-6-(1H-pyrrol-3-yl)carbonyl]pyrrolo[2,1-f][1,2,4]triazin-4-yl]amino]- (9CI) (CA INDEX NAME)



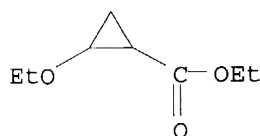
IT 5604-58-0P 53381-05-8P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(intermediate; preparation of pyrrolo[2,1-f][1,2,4]triazine aniline compds. as p38 kinase inhibitors)

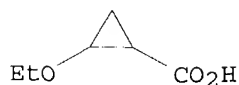
RN 5604-58-0 HCAPLUS

CN Cyclopropanecarboxylic acid, 2-ethoxy-, ethyl ester (6CI, 9CI) (CA INDEX NAME)



RN 53381-05-8 HCAPLUS

CN Cyclopropanecarboxylic acid, 2-ethoxy- (9CI) (CA INDEX NAME)



IT 623153-04-8P 623153-07-1P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation);  
THU (Therapeutic use); BIOL (Biological study); PREP (Preparation)  
; USES (Uses)

(drug candidate; preparation of pyrrolotriazine aniline compds. as p38  
kinase inhibitors)

IT 5604-58-0P 53381-05-8P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
(Preparation); RACT (Reactant or reagent)

(intermediate; preparation of pyrrolotriazine aniline compds. as p38 kinase  
inhibitors)

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

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FILE 'HOME' ENTERED AT 11:07:56 ON 14 JUL 2004

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=> b hcap

FILE 'HCAPLUS' ENTERED AT 11:31:51 ON 14 JUL 2004

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FILE COVERS 1907 - 14 Jul 2004 VOL 141 ISS 3

FILE LAST UPDATED: 13 Jul 2004 (20040713/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

'OBI' IS DEFAULT SEARCH FIELD FOR 'HCAPLUS' FILE

=> d all hitstr l60

L60 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:875173 HCAPLUS

DN 139:381511

ED Entered STN: 07 Nov 2003

TI Pyrrolotriazine aniline compounds useful as kinase inhibitors, particularly p38 kinases, and their preparation, pharmaceutical compositions, and use as antiinflammatory agents

IN Dyckman, Alaric; Hynes, John; Leftheris, Katherina; Liu, Chunjian; Wroblewski, Stephen T.

PA Bristol-Myers Squibb Company, USA

SO PCT Int. Appl., 158 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM B01F003-12

ICS B01F005-26; B01F007-24; B01F007-26; B01F015-02

CC 28-19 (Heterocyclic Compounds (More Than One Hetero Atom))

Section cross-reference(s): 1, 63

FAN.CNT 1

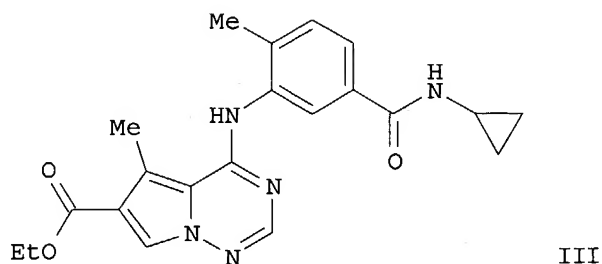
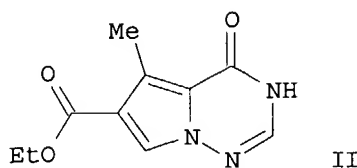
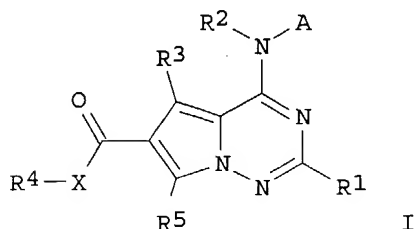
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PI	WO 2003090912	A1	20031106	WO 2003-US12426	20030415 <--
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RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ,

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 PRAI US 2002-374938P P 20020423 <--  
 OS MARPAT 139:381511  
 GI



- AB Title compds. I and their enantiomers, diastereomers, pharmaceutically acceptable salts, prodrugs, and solvates are useful as p38 kinase inhibitors [wherein: A = certain substituted Ph rings, particularly bearing various carboxamide and sulfonamide substituents; X = O, OCO, S, S(O), SO<sub>2</sub>, CO, CO<sub>2</sub>, (un)substituted NH, NHCO, NHCONH, NHCO<sub>2</sub>, NHSO<sub>2</sub>, NHSO<sub>2</sub>NH, SO<sub>2</sub>NH, or CONH, halo, NO<sub>2</sub>, cyano, or bond; R<sub>1</sub>, R<sub>5</sub> = H, (un)substituted alkyl, OH or derivs., SH or derivs., CO<sub>2</sub>H or derivs., NH<sub>2</sub> or derivs., halo, NO<sub>2</sub>, cyano; R<sub>2</sub> = H, alkyl; R<sub>3</sub> = H, Me, CF<sub>3</sub>, MeO, halo, cyano, NH<sub>2</sub>, or NHMe; R<sub>4</sub> = H (with provisos), (un)substituted alk(en/yn)yl, (hetero)aryl, (hetero)cycloalkyl, or absent]. Over 300 specific compds. I and various intermediates were prepared. Compds. I selectively inhibited human p38.alpha./beta. isoenzymes and TNF-.alpha. in vitro (no data). For instance, 3-amino-4-methylbenzoic acid was amidated quant. with cyclopropylamine using EDC and DMAP in DMF. The pyrrolotriazinone ester II was then chlorinated at the ring oxo group with POCl<sub>3</sub> (100%). Aminolysis of the resulting chloride with the benzamide product from the first step gave 80% invention compound III.
- ST aniline pyrrolotriazine prepn p38 kinase inhibitor; anilinopyrrolotriazine prepn kinase TNF alpha inhibitor antiinflammatory
- IT Respiratory distress syndrome  
 (adult, treatment; preparation of pyrrolotriazine aniline compds. as p38 kinase inhibitors)
- IT Antiarteriosclerotics  
 (antiatherosclerotics; preparation of pyrrolotriazine aniline compds. as p38 kinase inhibitors)
- IT Lung, disease  
 (chronic inflammation, treatment; preparation of pyrrolotriazine aniline compds. as p38 kinase inhibitors)
- IT Lung, disease

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(chronic obstructive, treatment; preparation of pyrrolotriazine aniline compds. as p38 kinase inhibitors)

IT Transplant and Transplantation  
(graft-vs.-host reaction, treatment; preparation of pyrrolotriazine aniline compds. as p38 kinase inhibitors)

IT Intestine, disease  
(inflammatory, treatment; preparation of pyrrolotriazine aniline compds. as p38 kinase inhibitors)

IT Tumor necrosis factors  
RL: BSU (Biological study, unclassified); BIOL (Biological study)  
(inhibitors; preparation of pyrrolotriazine aniline compds. as p38 kinase inhibitors)

IT Anti-inflammatory agents  
Antiarthritics  
Antiasthmatics  
Antidiabetic agents  
Human  
(preparation of pyrrolotriazine aniline compds. as p38 kinase inhibitors)

IT Arthritis  
(psoriatic arthritis, treatment; preparation of pyrrolotriazine aniline compds. as p38 kinase inhibitors)

IT Arthritis  
(traumatic, treatment; preparation of pyrrolotriazine aniline compds. as p38 kinase inhibitors)

IT Gout  
Rubella  
(treatment of associated arthritis; preparation of pyrrolotriazine aniline compds. as p38 kinase inhibitors)

IT Arthritis  
Asthma  
Atherosclerosis  
Diabetes mellitus  
Inflammation  
Osteoarthritis  
Osteoporosis  
Psoriasis  
Rheumatoid arthritis  
(treatment; preparation of pyrrolotriazine aniline compds. as p38 kinase inhibitors)

IT 623152-12-5P  
RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
(drug candidate; preparation of pyrrolotriazine aniline compds. as p38 kinase inhibitors)

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RL: PAC (Pharmacological activity); SPN (Synthetic preparation);  
 THU (Therapeutic use); BIOL (Biological study); PREP (Preparation)  
 ; USES (Uses)

(drug candidate; preparation of pyrrolotriazine aniline compds. as p38  
 kinase inhibitors)

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	623155-06-6P	623155-07-7P	623155-08-8P	623155-09-9P	623155-10-2P
	623155-11-3P	623155-12-4P	623155-13-5P	623155-14-6P	623155-15-7P
	623155-16-8P	623155-17-9P	623155-18-0P	623156-24-1P	

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU  
 (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES  
 (Uses)

(drug candidate; preparation of pyrrolotriazine aniline compds. as p38  
 kinase inhibitors)

IT	695-37-4P	<b>5604-58-0P</b>	17071-24-8P	23309-09-3P	25688-18-0P
	31992-43-5P	<b>53381-05-8P</b>	54941-44-5P	54941-46-7P	
	61372-79-0P	97509-75-6P	101207-48-1P	112677-67-5P	116922-22-6P

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148546-97-8P	148546-99-0P	159724-40-0P	184097-88-9P	204078-31-9P
215309-00-5P	220954-15-4P	250681-52-8P	250681-77-7P	258503-84-3P
258503-85-4P	258503-86-5P	258864-18-5P	312904-49-7P	427878-34-0P
427878-41-9P	427878-56-6P	427878-57-7P	427878-58-8P	427878-59-9P
621685-37-8P	621685-54-9P	621685-55-0P	621685-56-1P	621685-57-2P
621685-58-3P	621685-59-4P	621685-60-7P	621685-61-8P	623155-19-1P
623155-20-4P	623155-21-5P	623155-22-6P	623155-23-7P	623155-25-9P
623155-26-0P	623155-29-3P	623155-31-7P	623155-39-5P	623155-40-8P
623155-41-9P	623155-42-0P	623155-43-1P	623155-44-2P	623155-45-3P
623155-46-4P	623155-47-5P	623155-48-6P	623155-49-7P	623155-50-0P
623155-51-1P	623155-52-2P	623155-53-3P	623155-54-4P	623155-55-5P
623155-56-6P	623155-57-7P	623155-58-8P	623155-59-9P	623155-60-2P
623155-61-3P				

RL: **RCT (Reactant)**; SPN (Synthetic preparation); PREP

(Preparation); **RACT (Reactant or reagent)**

(intermediate; preparation of pyrrolotriazine aniline compds. as p38 kinase inhibitors)

IT 165245-96-5, p38 Kinase

RL: BSU (Biological study, unclassified); BIOL (Biological study)

(preparation of pyrrolotriazine aniline compds. as p38 kinase inhibitors)

IT 62-53-3, Aniline, reactions 75-31-0, Isopropyl amine, reactions  
 78-81-9, Isobutyl amine 78-96-6 85-41-6, Phthalimide 96-50-4,  
 2-Aminothiazole 96-54-8, 1-Methylpyrrole 99-55-8, 2-Methyl-5-  
 nitroaniline 100-58-3, Phenylmagnesium bromide 100-66-3, Anisole,  
 reactions 107-10-8, 1-Propanamine, reactions 109-01-3,  
 1-Methylpiperazine 109-04-6, 2-Bromopyridine 109-55-7,  
 N,N-Dimethyl-1,3-propanediamine 109-73-9, 1-Butanamine, reactions  
 109-85-3 109-89-7, Diethylamine, reactions 109-92-2, Ethyl vinyl ether  
 109-97-7, 1H-Pyrrole 110-00-9, Furan 110-85-0, Piperazine, reactions  
 110-89-4, Piperidine, reactions 110-91-8, Morpholine, reactions  
 119-32-4, 4-Methyl-3-nitroaniline 120-72-9, 1H-Indole, reactions  
 123-00-2, 4-Morpholinepropanamine 123-62-6, Propionic anhydride  
 123-75-1, Pyrrolidine, reactions 124-40-3, Dimethylamine, reactions  
 151-18-8 155-09-9 156-87-6, 3-Amino-1-propanol 288-13-1, Pyrazole  
 288-32-4, Imidazole, reactions 372-47-4, 3-Fluoropyridine 402-67-5,  
 3-Fluoronitrobenzene 403-54-3, 3-Fluorobenzonitrile 504-24-5,  
 4-Aminopyridine 504-29-0, 2-Aminopyridine 513-49-5 585-79-5,  
 3-Bromonitrobenzene 603-76-9, 1-Methyl-1H-indole 616-45-5,  
 2-Pyrrolidinone 618-61-1, 3-Nitro-5-methylaniline 622-47-9,  
 p-Tolylacetic acid 623-73-4, Ethyl diazoacetate 765-30-0,  
 Cyclopropylamine 826-85-7 933-88-0, 2-Methylbenzoyl chloride  
 1448-87-9, 2-Chloroquinoxaline 1750-42-1, 3-Aminoisoxazole 1820-80-0,  
 3-Amino-1H-pyrazole 2038-03-1, 4-Morpholineethanamine 2265-94-3,  
 3,5-Difluoronitrobenzene 2458-12-0 2516-47-4, Cyclopropylmethanamine  
 2620-50-0, 1,3-Benzodioxole-5-methanamine 2627-86-3 3524-32-1  
 3731-51-9, 2-Pyridinemethanamine 3731-52-0, 3-Pyridinemethanamine  
 3731-53-1, 4-Pyridinemethanamine 4005-51-0, 1,3,4-Thiadiazol-2-amine  
 4442-59-5 4570-45-0, 2-Aminooxazole 4572-03-6 5036-48-6,  
 1H-Imidazole-1-propanamine 5332-73-0, 3-Methoxy-1-propanamine  
 5333-27-7 5382-16-1, 4-Piperidinol 5805-57-2, 1H-Benzimidazole-2-  
 methanamine 6291-85-6, 3-Ethoxy-1-propanamine 6627-60-7 7154-73-6,  
 1-Pyrrolidineethanamine 7175-81-7 7202-43-9 7305-71-7 10397-30-5,  
 3-Nitro-4-methylbenzoyl chloride 19013-11-7 20010-99-5,  
 Pyrazinemethanamine 23159-07-1, 1-Pyrrolidinepropanamine 51387-90-7  
 56613-80-0 65287-34-5, 2-Chloro-4-pyridinecarbonyl chloride 74370-93-7  
 75985-45-4, 2-Pyrimidinemethanamine 84540-59-0, 4-Methyl-3-nitrobenzyl  
 chloride 105919-28-6 118430-73-2 129714-97-2, 3,5-Difluorobenzoyl  
 chloride 250681-75-5 317806-86-3 387350-39-2 427877-76-7  
 427878-02-2 427878-70-4 621685-64-1 623155-62-4 623155-63-5  
 623155-64-6 623155-65-7 623155-66-8

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RL: RCT (Reactant); RACT (Reactant or reagent)  
(starting material; preparation of pyrrolotriazine aniline compds. as p38  
kinase inhibitors)

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

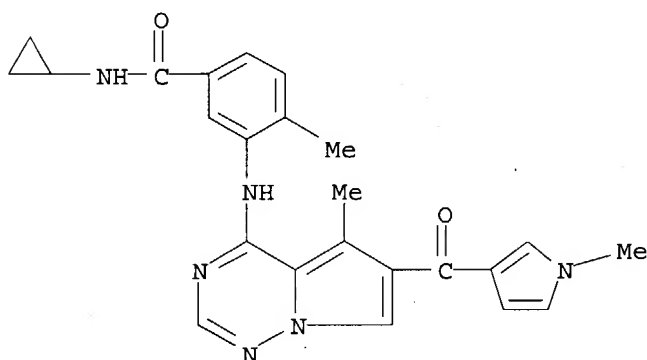
- (1) Johansson; US 4824032 A 1989
- (2) Kirschbraun; US 1560826 A 1925 HCAPLUS
- (3) O'Brein; US 5478147 A 1995
- (4) Pillon; US 4883363 A 1989
- (5) Schneider; US 4955723 A 1990

IT 623153-04-8P 623153-07-1P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation);  
THU (Therapeutic use); BIOL (Biological study); PREP (Preparation)  
; USES (Uses)  
(drug candidate; preparation of pyrrolotriazine aniline compds. as p38  
kinase inhibitors)

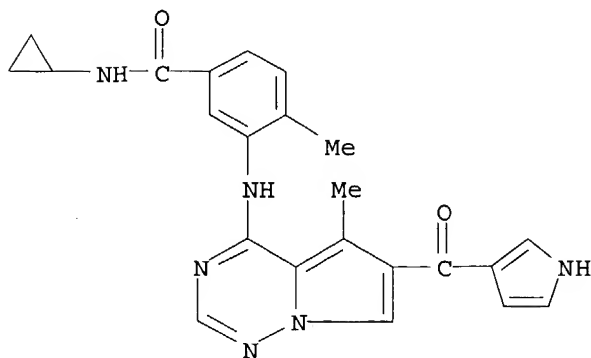
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CN Benzamide, N-cyclopropyl-4-methyl-3-[[5-methyl-6-[(1-methyl-1H-pyrrol-3-yl)carbonyl]pyrrolo[2,1-f][1,2,4]triazin-4-yl]amino] - (9CI) (CA INDEX NAME)



RN 623153-07-1 HCAPLUS

CN Benzamide, N-cyclopropyl-4-methyl-3-[[5-methyl-6-(1H-pyrrol-3-ylcarbonyl)pyrrolo[2,1-f][1,2,4]triazin-4-yl]amino] - (9CI) (CA INDEX NAME)



IT 5604-58-0P 53381-05-8P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP

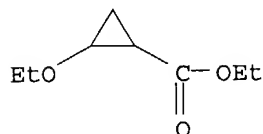
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(Preparation); **RACT (Reactant or reagent)**

(intermediate; preparation of pyrrolotriazine aniline compds. as p38 kinase inhibitors)

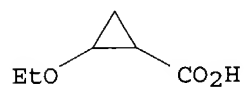
RN 5604-58-0 HCAPLUS

CN Cyclopropanecarboxylic acid, 2-ethoxy-, ethyl ester (6CI, 9CI) (CA INDEX NAME)



RN 53381-05-8 HCAPLUS

CN Cyclopropanecarboxylic acid, 2-ethoxy- (9CI) (CA INDEX NAME)



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